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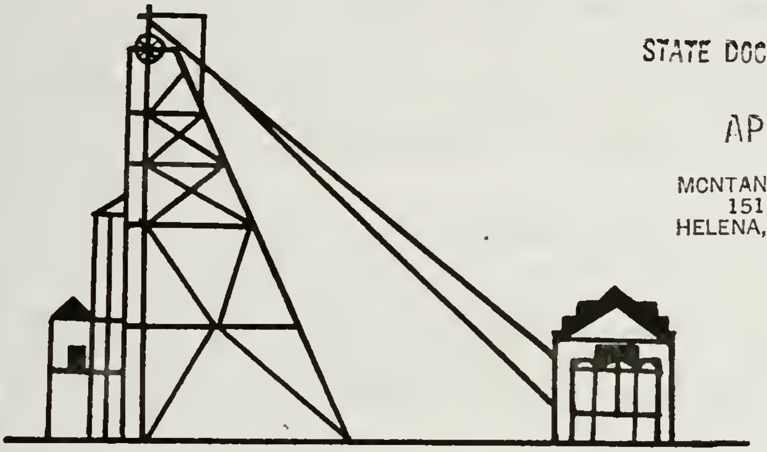

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CULTURAL RESOURCE INVENTORY AND EVALUATION
Of Selected Coal Mines in the Gallati~~o~~n County Portion of the Livingston Coal Field, Montana

for

The Montana Department of State Lands

July 1987

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CULTURAL RESOURCE INVENTORY AND EVALUATION

Of Selected Coal Mines in the Gallatin County Portion of the Livingston Coal Field, Montana

for

The Montana Department of State Lands
1625 - 11th Ave.
Helena, Montana 59601

by

Gene Munson
Cultural Resource Division
GCM Services, Inc.
P. O. Box 3047
Butte, MT 59702

Report No. 92-6-87

July 1987

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ABSTRACT

A cultural resource inventory of 13 abandoned coal mine sites within the Gallatin County portion of the Livingston Coal Field was conducted for the Department of State Lands, Abandoned Mine Reclamation Program. The mine sites are: Woodland Mine (24GA770), Ross Mine (24GA771), Washoe Mine (24-GA772), Mountainside Mine (24GA773), Meadow Creek Mine Complex (24GA774), Pendleton Mine (24GA775), Timberline Nos. 1 and 2 Mines (24GA776), Timberline No. 3 Mine (24GA777), Timberline No. 4 Mine (24GA778), Timberline No. 5 Mine (24GA779), Timberline No. 6 Mine (24GA780/24PA778), Q and H Nos. 1 and 2 (24GA781), and Hyer Prospect (24GA782). A prehistoric site (24GA783) consisting of a lithic scatter was located at the Washoe Mine. The mines date from 1881 to 1947 and represent coal sales for both domestic and industrial uses.

All of the sites, except for the Washoe (24GA772), were recommended as not eligible for listing on the National Register of Historic Places (NRHP) because their physical integrity has been lost. The Washoe Mine was planned as a model mine and community by the Amalgamated Copper Company to produce coke for the smelters. Although mostly destroyed, the site contains the remains of coke ovens and foundations for the washer plant and several other structures. These structures exhibit distinctive characteristics of a type and period of construction which would qualify the site eligible for listing on the NRHP under Criterion C.

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INTRODUCTION

In November of 1986 GCM Services, Inc. in Butte, Montana was contracted by the Montana Department of State Lands (DSL) to perform a cultural resource inventory and evaluation of selected abandoned coal and hardrock mines in Montana.

In the interest of public safety and health the DSL, as part of its abandoned mines reclamation project, plans to seal mine adits, remove any unsafe structures and either remove or reclaim tailings and coal spoil dumps.

This report presents the results of the inventory of selected mine sites in the Gallatin County portion of the Livingston Coal Field. Figure 1 shows the location of the sites on a USGS quadrangle map. Table 1 is a list of names given to the mine sites by the DSL and their historic names as used in this report. Table 2 provides the legal locations of the sites. The text describes the physical setting, historic background and present state of the Woodland Mine (24GA770), Ross Mine (24GA771), Washoe Mine (24GA772), Mountainside Mine (24GA773), Meadow Creek Mine Complex (24GA774), Pendleton Mine (24GA775), Timberline Nos. 1 and 2 Mines (24GA776), Timberline No. 3 Mine (24GA777), Timberline No. 4 Mine (24GA778), Timberline No. 5 Mine (24GA779), Timberline No. 6 Mine (24GA780/24PA778), Q and H Nos. 1 and 2 (24GA781), Hyer Prospect (24GA782) and Coke Oven Terrace prehistoric site (24GA783), located at the Washoe Mine.

Site inventory forms for each mine site and the prehistoric site makes up Appendix A. For each site there is detailed information on the existing features, a historic discussion and an evaluation of the site in terms of its contribution to the history of southwestern Montana. Maps and photographs supplement the written material. These site forms remain on file at the state repositories at the State Historic Preservation Office, Helena, and the Department of Anthropology, University of Montana, Missoula.

Field investigations were conducted in May and June of 1987 by Tom Jerde, Connie Moore, Jim Duran and Gene Munson. The project maps were prepared by Jim Duran and the report was edited by Paul Anderson and Lynn Fredlund. All field notes, photographs and supportive information resulting from the cultural resource fieldwork will be maintained at the office of GCM Services, Inc., Butte, Montana.

Table 1. DSL and historic names and Smithsonian numbers for the mine sites and prehistoric site.

DSL Designation	Historic Designation	Smithsonian Site Number
Ross Mine	Woodland Mine	24GA770
Ross Mine	Ross Mine	24GA771
Anaconda Mine	Washoe Mine	24GA772
Mountainside Mine	Mountainside Mine	24GA773
Murphy Mine	Meadow Creek Mine Complex	24GA774
Ross Mine	Pendleton Mine	24GA775
Ross Mine	Timberline Nos. 1 and 2 Mines	24GA776
Nos. 4 and 5 Mines	Timberline No. 3 Mine	24GA777
Ross Mine	Timberline No. 4 Mine	24GA778
Timberline Mine	Timberline No. 5 Mine	24GA779
Coulston Mine	Timberline No. 6 Mine	24GA780/ 24PA788*
Nos. 4 and 5 Mines	Q and H Nos. 1 and 2 Mines	24GA781
Coulston Mine	Hyer Prospect	24GA782
Anaconda Mine	Coke Oven Terrace Prehistoric Site	24GA783

*Note: this site has two site numbers because it is in both Gallatin and Park Counties

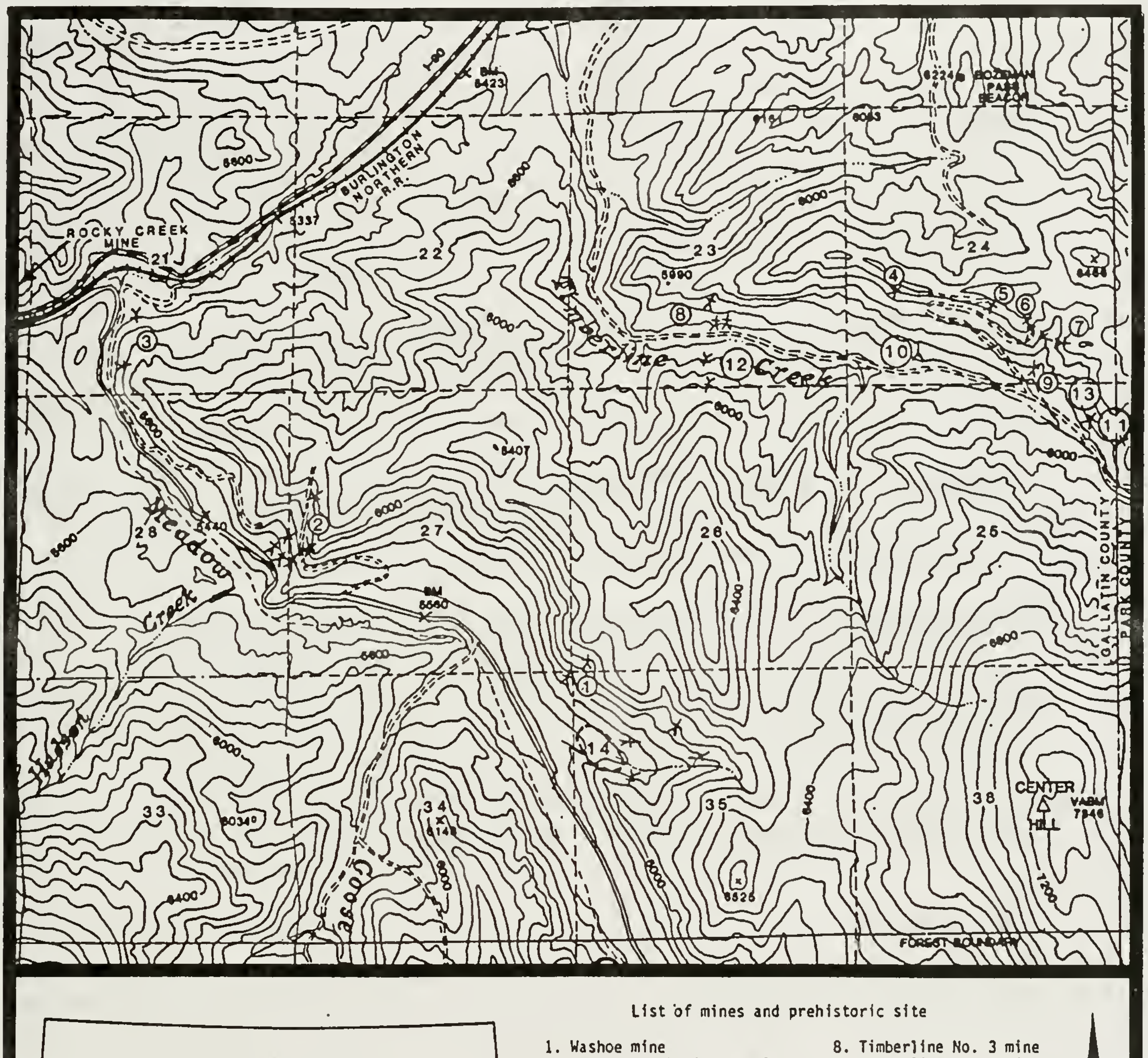


Figure 1. Map showing the location of sites in the project area.

Table 2. Legal descriptions of project mines.

Woodland	T2S R7E	S1/2 NE1/4 SW1/4 Section 24
Ross	T2S R7E	SW1/4 NW1/4 SE1/4 Section 24
Washoe	T2S R7E	E1/2 NE1/4 Section 34
		NW1/4 Section 35
		SW1/4 SW1/4 SW1/4 Section 26
		SE1/4 SE1/4 SE1/4 Section 27
Mountainside	T2S R7E	E1/2 SW1/4 Section 21
Meadow Creek Mine Complex	T2S R7E	W1/2 SW1/4 NW1/4;
		NW1/4 NW1/4 SW1/4 Section 27
		SE1/4 NE1/4 SE1/4 Section 28
Pendleton	T2S R7E	NE1/4 SW1/4 SE1/4 Section 24
Timberline Nos. 1 and 2	T2S R7E	NW1/4 SE1/4 SE1/4;
		NE1/4 SW1/4 SE1/4 Section 24
Timberline No. 3	T2S R7E	N1/2 SW1/4 SE1/4 Section 23
Timberline No. 4	T2S R7E	SE1/4 SW1/4 SE1/4 Section 24
		NE1/4 NW1/4 NE1/4 Section 25
Timberline No. 5	T2S R7E	S1/2 SE1/4 SE1/4 Section 24
Timberline No. 6	T2S R7E	SE1/4 NE1/4 NE1/4 Section 25
	T2S R8E	SW1/4 NW1/4 NW1/4 Section 30
Q and H Nos. 1 and 2	T2S R7E	SW1/4 SW1/4 SE1/4;
		SE1/4 SE1/4 SW1/4 Section 23
Hyer Prospect	T2S R7E	SE1/4 NE1/4 NE1/4 Section 25

METHODOLOGY

Prior to the initiation of fieldwork the state site files at the University of Montana, Montana Historical Society's Historic Preservation Office files, and the Historic Sites Compendium (Montana Fish and Game Commission 1975) were searched for previously recorded sites in the area. The Government Land Office records at the Bureau of Land Management's records divisions in Billings and Butte, Montana were consulted for relevant GLO plat maps, historic survey plat maps and historical indices showing site ownership and historical features in the vicinity.

The site areas were carefully examined through a pedestrian inventory following standard archeological survey procedures. These pedestrian surveys are designed to provide the most complete coverage of an area possible. Undisturbed areas were systematically examined for possible prehistoric activities.

The survey is designed to meet all legal requirements of the National Historic Preservation Act 1980 Amendments. The information provides all necessary data to allow agency review for National Register of Historic Places (NRHP) eligibility and a determination of the effects of the proposed action.

All sites located are recorded on standard site forms and are assigned a site number by the state site files office at the University of Montana under the trinomial system of the Smithsonian Institution. Each site is examined, structures measured and a sketch map drawn showing the location of artifacts, cultural features and/or structures and their relationship to natural features within the site area.

Each site is photographed in black and white negative and color positive film. All features and structures of historic sites are photographed to show significant aspects in detail.

PHYSICAL SETTING

The project area is located about 10 miles east of Bozeman, Montana along the eastern edge of the Rocky Mountains. It is on the western side of the Livingston coal field. Roberts (1966) described the Livingston coal field as covering an area about 420 square miles and was located:

> ...near Livingston, in the east-central part of Gallatin County and the west-central part of Park County, southwestern Montana, at the junction of the south end of the Bridger Range near Bozeman, Mont., the west end of the Beartooth Range, and the north end of the Gallatin Range. The Gallatin Range-bounded on the east by Paradise Valley, through which the Yellowstone River flows, and on the west by the valley of the Gallatin River-extends northward to the south end of the Bridger Range (Roberts 1966:2-3).

The mines inventoried for this project are on the northern end of the Gallatin Mountain Range between 5200 to 6400 ft elevation above mean sea level. The mountains are steep but not as precipitous as they are farther south. The mines are within an area bounded on three sides by small mountain streams: Rocky Creek on the north; Meadow Creek on the west; and Timberline Creek on the east. The mines along Timberline Creek are within the Timberline coal district and those along Meadow Creek are within the Meadow Creek coal district. These three streams flow through narrow ravines that are 1/4 mile and less in width. The sides of the ravines are made up of mountain ridges that are from 400 ft to 1000 ft higher than the streams. Generally, the south-facing and west-facing ridges are covered with grasses, hawthorne and sages with the north- and east-facing ridges covered with Douglas fir and lodgepole pine forests.

Along the face of these ridge systems the coal seams are exposed. Mountain orogeny played an important role not only in exposing and bringing the coal beds near the surface so they could be easily mined but also in making much of the coal of high enough quality so it could be coked. For the most part the dip of the coal-bearing rocks is 45° or more (Roberts 1966). The coal is from the Upper Cretaceous period Eagle Formation and there are several different beds, some of which are exposed on the face of the mountain ridge systems. Those located in the upper part of the Eagle Formation are bituminous-coking quality and those in the lower part are lignite-non-coking quality. Thickness of the individual beds ranges from a few inches to more than 10 ft, with an average thickness of 3 to 4 ft. The frequent change in thickness is, in part, due to the original depositional character and in part due to post depositional tectonic alteration.

The major beds that were mined (starting with the lowest bed first) are the Big Dirty bed, Maxey bed, Middle bed, Storrs No. 3 bed, Paddy Miles bed, and Cokedale bed. These beds not only varied greatly in thickness from one mine to another but also varied considerably in the distance of feet of their stratigraphic separation. For both Meadow Creek and Timberline Coal districts the Cokedale bed was the largest coal source (Roberts 1966).

THE PREHISTORY

The general background for the prehistory of the Upper Yellowstone River Valley must be described by examining sites from mountain regions of western Montana and Wyoming and eastern Idaho. The landscape provides high mountains and foothills, intermountain valleys and parklands. Early man was able to adapt to these different habitats and changing climatic conditions over time. Although several prehistoric cultural sequences have been proposed for western Montana, the following is based on that developed by George Frison (1978). Figure 2 provides illustrations of the projectile point styles mentioned and Figure 3 shows the projected climatic changes in relation to the periods of cultural change. This brief prehistoric sequence is provided to enable the reader to evaluate cultural materials found and archeological sites recorded in terms of man's overall involvement in change and adaptation to the intermountain area for the last 12,000 years. Greater detail on sites within the Paradise Valley is provided by Huppe (1987).

Paleo-Indian Period (12,000 - 5500)

Man's presence in the mountains, valleys and high plains of southwestern Montana and northern Wyoming during the Paleo-Indian period can be documented by a number of archeological sites. Projectile points from this period were large lanceolate spear points used to hunt the large Pleistocene fauna, e.g., mammoth, bison, camel. These include the fluted Clovis and Folsom points reported in Beaverhead and Madison Counties (Jasmann 1963) as well as from other parts of Montana and Wyoming. As the large game animals began to disappear around 8000 B. C. early man adapted more to a hunting and gathering method of subsistence (Frison 1978). Different ecological zones were utilizied and the upper Yellowstone valley was intermittenly occupied during this time. Projectile point types continued to change and are characterized by Agate Basin, Hell Gap, Alberta and the Cody Complex.

During the later part of this period the climate became warmer affecting vegetative and animal communities. This caused early man to use not only hunting but gathering of vegetable plants as a means of subsistence. The foothills, mountains and intermountain valleys were therefore utilized as well as the plains. More sites began to appear at higher elevations as man spread into other ecological zones. As many as 150 sites at an elevation of 9000 ft or higher have been located in the Absaroka Range (Haines 1963). These hunters may have been avoiding the Pinedale valley glaciers and snow fields that were in the area at that time.

The Anzick site near Wilsall, north of Livingston, reported by Taylor (1969) and Lahren and Bonnichsen (1974) was a Clovis burial site with associated projectile points, preforms and bone foreshafts. A possible Paleo-Indian site (24PA159) located in the upper Yellowstone valley at the confluence of Bear Creek and Palmer Creek was discovered by a local who reported seeing large lanceolate points similar to the Clovis type (Gallatin National Forest 1982). Lahren (1976) reports on two types of points which exhibit parallel-oblique flaking and parallel transverse flaking from the stratified Myers-Hindman site in the Upper Yellowstone Valley near Livingston.

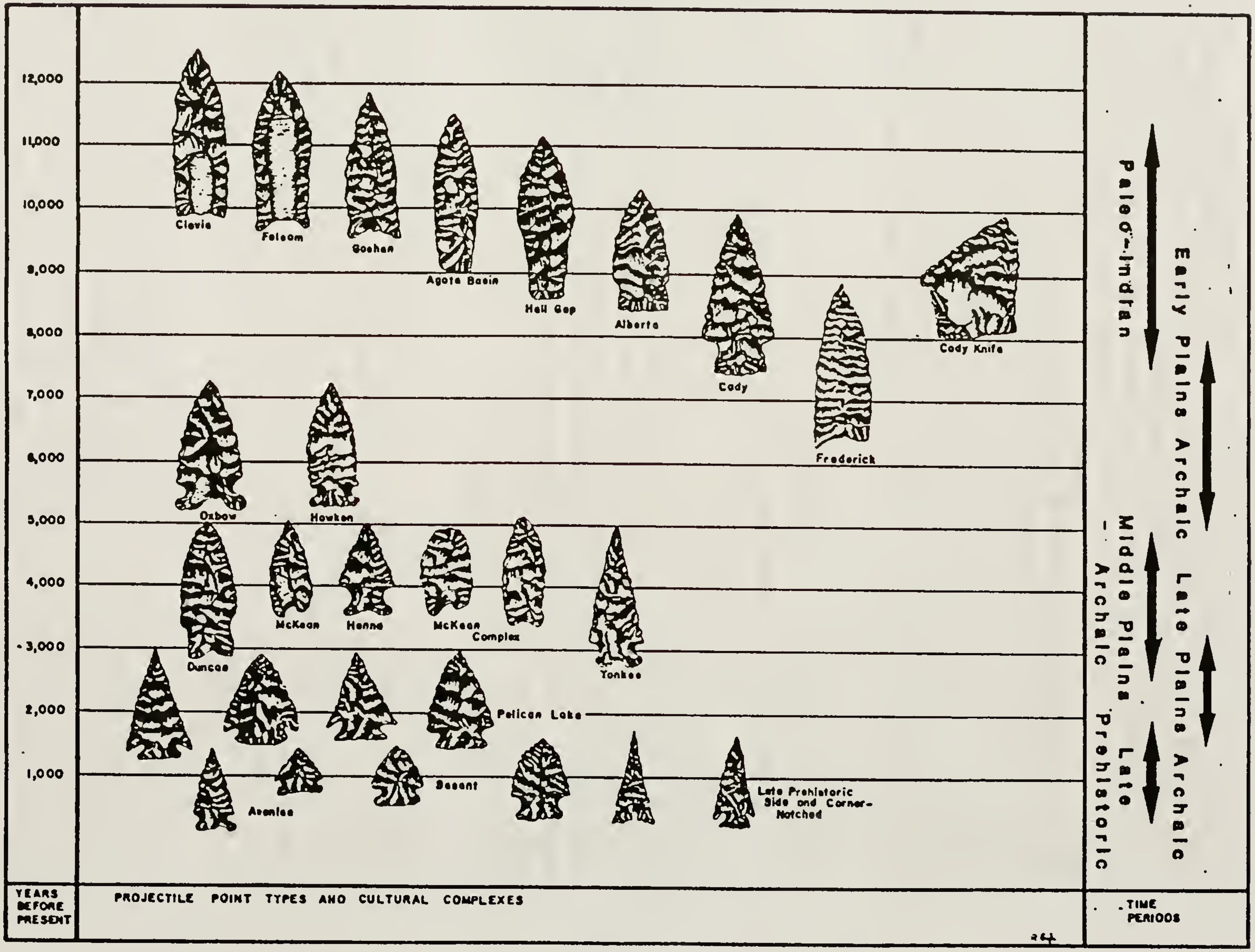
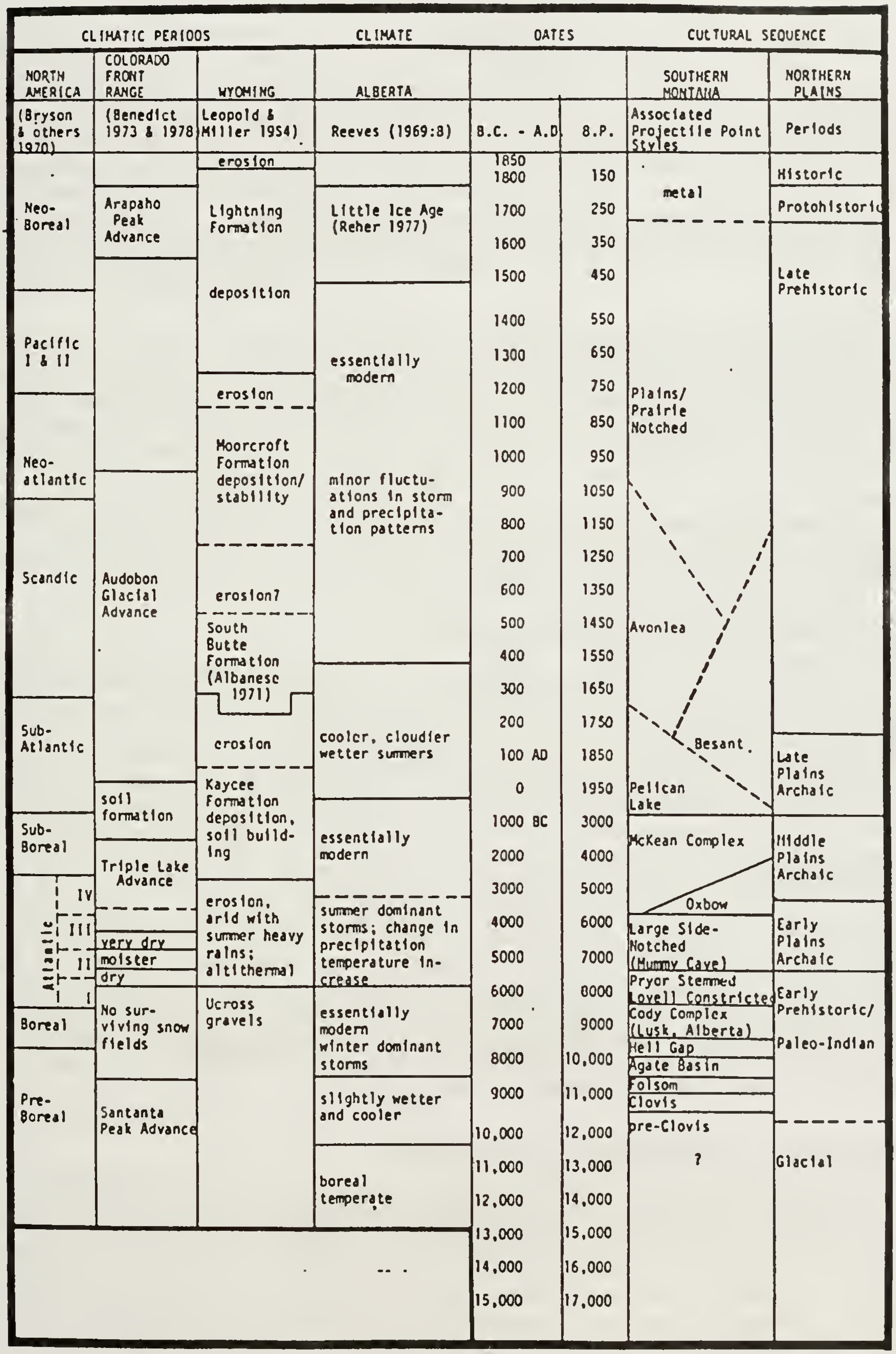


Figure 2. Projectile point styles and cultural complexes of the Northwestern Plains.



CLIMATIC PERIODS			CLIMATE	DATES		CULTURAL SEQUENCE	
NORTH AMERICA	COLORADO FRONT RANGE	WYOMING	ALBERTA			SOUTHERN MONTANA	NORTHERN PLAINS
(Bryson & others 1970)	(Benedict 1973 & 1978)	Leopold & Miller 1954)	Reeves (1969:8)	B.C. - A.D.	B.P.	Associated Projectile Point Styles	Periods
		erosion		1850			
				1800	150	metal	Historic
Neo-Boreal	Arapaho Peak Advance	Lightning Formation	Little Ice Age (Reher 1977)	1700	250		Protohistoric
				1600	350		
		deposition		1500	450		Late Prehistoric
				1400	550		
Pacific I & II			essentially modern	1300	650		
		erosion		1200	750	Plains/ Prairie Notched	
				1100	850		
Neo-atlantic		Moorcroft Formation deposition/ stability		1000	950		
			minor fluctuations in storm and precipitation patterns	900	1050		
				800	1150		
				700	1250		
Scandic	Audobon Glacial Advance	erosion?		600	1350		
				500	1450	Avonlea	
		South Butte Formation (Albanese 1971)		400	1550		
				300	1650		
Sub-Atlantic				200	1750		
		erosion	cooler, cloudier wetter summers	100 AD	1850	Besant	
	soil formation			0	1950	Pelican Lake	Late Plains Archaic
Sub-Boreal		Kaycee Formation deposition, soil building		1000 BC	3000		
	Triple Lake Advance		essentially modern	2000	4000	McKean Complex	Middle Plains Archaic
Atlantic IV				3000	5000	Oxbow	
III	very dry	erosion, arid with summer heavy rains; altithermal	summer dominant storms; change in precipitation temperature increase	4000	6000		
II	moister			5000	7000	Large Side-Notched (Mummy Cave)	Early Plains Archaic
I	dry			6000	8000	Pryor Stemmed Lovell Constricted	
Boreal	No surviving snow fields	Ucross gravels	essentially modern winter dominant storms	7000	9000	Cody Complex (Lusk, Alberta)	Early Prehistoric/ Paleo-Indian
				8000	10,000	Hell Gap Agate Basin	
Pre-Boreal	Santanta Peak Advance		slightly wetter and cooler	9000	11,000	Folsom Clovis	
				10,000	12,000	pre-Clovis	
				11,000	13,000	?	Glacial
			boreal temperate	12,000	14,000		
				13,000	15,000		
				14,000	16,000		
				15,000	17,000		

Figure 3. Climate and cultural sequence for the last 13,000 years on the Northwestern Plains.

Early Plains Archaic (5500 - 2500 B.C.)

During this period the climate continued to be warm and the glaciers retreated. This enabled early man to exploit the surrounding environment more effectively. More vegetation in these areas meant more food resources and the archeological record suggests seasonal migrations into the higher elevations in the summer months became common. With the large Pleistocene fauna disappearing the gathering of vegetable material became even more important. Sites from this time frame show a general decrease in hunting tools and more vegetable processing tools along with large, stone filled fire pits which may have been used for roasting.

Projectile points undergo a change from lanceolate to large side-notched varieties, commonly called Bitterroot. The best dated site of this period is Mummy Cave, a stratified occupation site near Yellowstone National Park with radiocarbon dates clustering around 7500 B.P. Several sites in the Upper Yellowstone valley are known from this period of time. The Carbella site (24PA302), a stratified site located at the mouth to Yankee Jim Canyon, produced lanceolate projectile points plus Middle and Late Plains Archaic points (McKean-Duncan-Hanna series and corner-notched types). An Early Plains Archaic level, defined at the Myers-Hindman site near Livingston, produced side-notched Bitterroot cultural material (Lahren 1976).

Middle Plains Archaic (2500 - 1000 B.C)

The McKean Complex is characterized by a different series of projectile point styles: the stemmed Duncan, lanceolate McKean and corner-notched Hanna. Sites from this period occur frequently and can be found from the plains to the mountains and in places where sites from earlier time periods were not known. Sites of this time period along the upper end of the valley near Gardiner tend to be small in size. However, sites north along the drainage in the lower elevations near Livingston are larger, while many sites around Bozeman and Helena in the intermountain broader and lower valleys were considerably even larger in size, suggesting larger groups of people living together.

At the Rigler Bluffs site (24PA101) near Corwin Springs, a buried hearth was dated to around 3005 B.C. with a scraper, large bones and a projectile point fragment of the Hanna type found nearby (Arthur 1966). The Carbella site (24PA302) also has a dateable McKean level (Arthur 1966). Other sites that are from this time frame and which are located in the upper Yellowstone River valley are the Myers-Hindman (24PA504), Eagle Creek (24PA301), Sphinx (24PA508), and the Six Mile site (24PA501) (Lahren 1971).

Late Plains Archaic (1000 B.C. - A.D. 200)

Climate on the plains during the Late Plains Archaic is characterized by a cooler and moister time which may have caused an increase in vegetation. The number and size of sites documented from this time are numerous and suggest a significant population increase. Bison herds increased and the traps used to capture them became more common. The most common point type is a corner-notched variety known as Pelican Lake which has wide, open notches that form sharp points. Sites in the Upper Yellowstone that have Pelican Lake levels are the small Emigrant Kill (24-PA309), Myers-Hindman (24PA504), Eagle Creek (24PA301) and the Sphinx site (24PA-508) (Frison 1978).

Towards the end of the Late Plains Archaic a different projectile point appears known as Besant. This appeared in the form of large, side-notched, dart-like points and a few corner-notched points. Corrals made of logs with posts were being used to capture the bison and there also is evidence of extensive religious activity in association with some of these sites. Frison (1978) suggests that the hunters using the Besant technology practiced a very sophisticated form of bison hunting (Frison 1978).

There are several sites in the upper Yellowstone valley that have Besant levels; Sphinx site (24PA508), Small Emigrant Kill (24PA309) and the Myers-Hindman site (24PA504) (Arthur 1966).

Stone circles, or tipi rings, make their appearance during the Late Plains Archaic. These features are, in most cases, the remains of dwelling structures and mark locations of prehistoric communities. They are found throughout the west from the plains to the mountains occurring on buttes, ridgetops and along streams. Such sites are also numerous in the Paradise Valley.

Late Prehistoric Period (A.D. 200 - 1800)

The size and number of sites continue to show an increase in population. The atlatl is replaced by the bow and arrow as the primary hunting tool. As a result of this, projectile points become smaller in size and different manufacturing techniques are adopted. The small side-notched Avonlea point was the first to appear along with a corner-notched variety. Serrated blade edges were common and towards the end of the Late Prehistoric, side-notched and base-notching together were employed to produce a tri-notched point.

Pottery begins to be used with the Intermountain pottery tradition being most common in the area. Steatite bowls are also reported at this time at sites in Wyoming and Montana (Frison 1978). Both are associated with Shoshonean groups (Mulloy 1958).

During the Late Prehistoric the use of obsidian for tools increased in the Upper Yellowstone area, although local cherts and quartzites were also common. Tools felt to be diagnostic of this period are the grooved maul and the bison metatarsal flesher.

Sites in the Upper Yellowstone that are representative of the Late Prehistoric period are the Six Mile (24PA501), Sphinx site (24PA508), Eagle Creek (24PA301), Large Emigrant Kill (24PA308) and the Myers-Hindman site (24PA504) (Lahren 1971).

Protohistoric Period (A.D. 1700 - 1800)

The introduction of the horse to the Indians on the Northwestern Plains brought about dramatic cultural changes. The horse enabled the Indians to cover more area and brought about new hunting techniques. With the horse replacing the dog in transporting camp belongings, moving was easier and more items could be carried.

European trade goods in the form of beads, iron knives, metal points and brass items were introduced to the Indians at this time. The Brawner Burial (24PA-503) located in the Upper Yellowstone contained a skeleton covered with trade goods (Lahren 1971).

Several Indian groups inhabited southcentral Montana during historic times. These include the Blackfoot, Crow and Shoshoni. The Blackfoot tended to stay north of the Yellowstone River and ranged as far east as the Musselshell River. The Crow occupied land from the Yellowstone River south into Wyoming and as far east as Powder River. The Shoshoni were situated in the southern part of Montana and occupied country from the Absaroka range west to Oregon and as far south as northern Nevada and Utah (Haines 1977). It is probable that all of these groups passed through the northern Gallatin Range and Upper Yellowstone Valley. The Tukudika Shoshone or Sheepeaters commonly lived in the area of Yellowstone Park and in relatively remote areas. Their camps are known from the Park and from high mountain country of the Pryors and Bighorns to the east.

HISTORICAL BACKGROUND

By Montana standards, Bozeman and the surrounding Gallatin valley were settled quite early. In 1864 John Bozeman guided the first train of immigrants into the Gallatin valley. They settled and founded the town of Bozeman which, three years later, became the county seat of one of the nine original territorial counties. During this same period of time Fort Ellis, located a few miles east of Bozeman on Rocky Creek, was established. This military post was located to insure control of Bozeman, Bridger and Flathead passes, as well as to provide the citizens in the Gallatin valley protection against the Indians (Cheney 1984).

As early as 1867, the geologic survey of the Northwest Territories reported potentially important coal deposits in the area (Hayden 1872), and in 1867 coal mining began at an exposed coal seam across Rocky Creek where, twenty years later, the Mountainside Mine was established. This first attempt at mining was done by two blacksmiths from Fort Ellis who wanted coking fuel for their forges. The Rocky Creek (or Chestnut) mine would have produced nothing more than a ton or so a year - enough for the forges -if it had not been for Colonel James D. Chesnut. The enthusiastic Colonel went into partnership with the blacksmiths and filed a 160 acre coal claim. The partners believed coal was not only going to bring them wealth and prosperity, but the entire Gallatin valley as well. The Colonel's enthusiasm was met with ridicule. Firewood was readily available plus it was believed that the only coal worth burning was located in the Eastern United States. Colonel Chesnut's partners lost interest in the coal mining venture and left him as the sole owner of the coal mine. In 1874 Colonel Chesnut took on another partner, J. V. Bogart, whose talent lay in writing newspaper articles for the Bozeman Avant Courier. Through humorous articles about the Colonel and coal, Bogart set out to educate people about how to burn coal. Coal sales were still few and far between but in 1876 Chestnut and Bogart secured a contract with the Army to supply Fort Ellis with coal at $9 per ton. By 1882 readily available firewood was scarce and was costing between $5 to $7 per cord; coal, in comparison was selling for $1.75 per ton and wood could no longer compete (MacDonald and Burlingame 1956).

However, it was not the domestic use of coal that made coal mining east of Bozeman a large and important industry. Steam coal was needed for the planned railroad that was to run through southern Montana, a railroad which was crucial for the development of mining and other industries in the Northwest Territories. It was coal's role to fuel train locomotives and smelters. The mines around Bozeman provided steam coal to the Northern Pacific Railroad for the run from Glendive, Montana to Sprague, Washington. This coal was used exclusively by the Northern Pacific Railroad for many years (Roberts 1966).

In 1881 the Northern Transcontinental survey was organized with George H. Eldridge and J. E. Wolff doing the exploration and mapping of coal deposits in Montana. The coal east of Bozeman was especially important since it lay adjacent to the planned railroad (Eldridge 1886). During this same year two Bozeman businessmen, C. W. Hoffman and F. D. Pease took up coal patents on land adjacent to Colonel Chesnut's Rocky Creek Mine. C. W. Hoffman later became one of the important figures in coal mine development of the area. The following year the Northern Pacific Railroad Company began the tunnel on Bozeman Pass. James Muir, who was in charge of the construction, arranged for the Northern Pacific Railroad Company to lease Colonel Chesnut's mine. The Northern Pacific Coal Company, a subsidiary of Northern Pacific Railroad, had already begun mining on Timberline Creek. George T. Wickes, who was the manager, had just come from an attempt at opening a mine for the company in the Bull Mountains.*

In 1883 Colonel Chesnut sold his interest in the Rocky Creek Mine and in 1895 Northern Pacific Coal Company assumed ownership of it. They continued to operate the mine until 1906 (Roberts 1966; MacDonald and Burlingame 1956).

C. W. Hoffman in 1888 leased the Northern Pacific Coal Company mines on Timberline Creek and continued to operate them until they were shut down in 1895. Hoffman then moved his mining operations to Trail Creek (Roberts 1966).

Another important figure in the local development of coal mines was Daniel Maxey and his sons Will, Dave, George and John. In 1893 Maxey sold his mine, the Mountainside Mine, located across Rocky Creek from Colonel Chesnut's mine, to M. J. Johnson of the Mountainside Coal Company who later sold it to the Union Pacfic Railroad. Maxey then went a few miles up Meadow Creek and opened another mine. After a few years he and his sons opened several mines on Trail Creek (MacDonald and Burlingame 1956; Roberts 1966).

Besides making excellent steam coal it was hoped that the mines would produce coking quality coal. None of the mines in Gallatin County lived up to expectations as coking coal mines. From 1902 to 1907 Amalgamated Copper Company spent almost one million dollars at the Washoe Mine and facilities on Meadow Creek in an attempt to develop a large coking plant. Sufficient quantities of coking quality coal were never located (Roberts 1966).

By 1919 the best and most readily mined coal had been exhausted and the Great Northern Railroad had found cheaper sources of coal. Except for a few small mines, coal mining had virtually ceased in the area. The 1930s marked a brief resurgence of mining, but this time, instead of mines producing hundreds of tons of coal and employing hundreds of men, the mines were small. The coal was sold exclusively for heating local businesses and homes. This wave of small time coal mining spread across Montana during the depression of the 1930s and ended with the beginning of World War Two.

There were two periods of coal mining in the Gallatin County portion of the Livingston coal field. The first period began in 1867 and ended by 1920 with the peak production occurring from 1880 to 1910. The majority of the production was used by the Northern Pacific Railroad to fuel its locomotives. The second period began in 1930 and ended by 1947. The majority of this coal was produced in small mines for local domestic use.

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*This was the short-lived Northern Pacific Mine (24YL279) which operated briefly in the early 1880s (Anderson 1987).

COAL MINING DISTRICTS

In the Gallatin County portion of the Livingston coal field there are four coal mining districts: Timberline district, Meadow Creek district, Trail Creek district, and Bridger Canyon district. The Timberline, Meadow Creek and Trail Creek districts are located east of Bozeman within a few miles of each other. The Bridger Canyon district is northeast of Bozeman. Only selected mines in the Meadow Creek and Timberline districts were inventoried for this report. Geographically, each district is in a separate drainage. Geologically, the districts are within different structural basins. For example, the coal beds in the Timberline district are tightly folded in the Eldridge Creek syncline, while the Meadow Creek district flanks the south end of the Meadow Creek syncline and the north ends of the Storrs anticline, Goose Creek syncline, and Chestnut Mountain anticline (Roberts 1966). Historically, the districts had their own communities whose sizes and durations of occupation were in direct response to the mining activities.

Timberline District

The Timberline coal district was the first in the Livingston coal field to have large scale mining and a community named Timberline. The district measures about three miles long and is less then one-half mile wide. The Northern Pacific Coal Company began prospecting along Timberline Creek in 1881 and had opened up several mines by 1882. In 1883 a narrow gauge railroad was run from the Northern Pacific mainline at West End (which is located at Bozeman Pass) up Timberline Creek. This 5-mile long railroad hauled coal out to the Northern Pacific Railroad mainline and supplies back to the mines and the Timberline community. When the line was first built, mules pulled the cars uphill to the mines. Loaded, the cars coasted by gravity to the tipple at West End. Later a small Baldwin locomotive, known as "Heppie", replaced the mules (Whithorn and Whithorn n.d.).

During the 1880s and early 1890s the town of Timberline consisted of about 300 families. It stretched up Timberline Creek for almost two miles beginning at the Timberline No. 3 Mine (also known as Stinking Water Mine) (Roberts 1966). From 1885 to 1898 Timberline had a post office. James Heron was the first postmaster and held that position until he was replaced by George Hoffman in 1891 (Park County Historical Society 1984). Saloons were not allowed in the town during the tenure of Robert McKee, superintendent for the Northern Pacific Coal Company's Timberline Mines. However, he was was replaced in 1886 by Logan M. Bullit who allowed saloons to open in the town (Whithorn and Whithorn n.d.). When the mines shut down in 1895, the town quickly died and today virtually no trace of the town remains.

The mines that made the community of Timberline were labeled by the Northern Pacific Coal Company simply as Timberline No. 1, Timberline No. 2, Timberline No. 3, Timberline No. 4, Timberline No. 5, and Timberline No. 6. Only coal slack dumps remain where these mines were located and little information could be obtained regarding facilities and outside workings. Reports mention coal being washed, but the washing facilities are not described (e.g., Roberts 1966; Montana Inspector of Mine Reports). Also, there were no references to tipples, mine offices, or any other facilities.

After the closure of the Timberline Mines in 1895, mining did not resume until the 1930s. This time the mines were small operations: the Woodland, Ross, Pendleton and Coulston (which consisted of re-opening a portion of the Timberline No. 6 mine). Outside facilities consisted of load-out chutes and one or two small buildings used to store supplies. The remains of these structures are still visible at several of the mines.

Meadow Creek District and the Turkey Trail Railroad

The Meadow Creek coal district is 1 to 3 miles west of the Timberline coal district along Meadow Creek. The Meadow Creek district begins at Rocky Creek at the mouth of Meadow Creek and extends up Meadow Creek to the divide between Meadow Creek and Trail Creek, an area about 4 miles long and less than 1/2 mile wide. Roberts (1966) includes the Rocky Creek Mine at Chestnut within the Meadow Creek district which gives this district the distinction of having the first coal mine in the Livingston Coal Field and, perhaps, the first bituminous coal mine in the Montana Territory. The Rocky Creek Mine, which opened in 1867, did not close down until 1907.

There were two communities in the Meadow Creek coal district: the town of Chestnut on the north end and the town of Storrs near the center. They were about 2 miles apart. Chestnut was named after Colonel J. D. Chesnut but the name was erroneously spelled "Chestnut" when the post office was established in 1894. The residents in the town of Chestnut worked at the Rocky Creek Mine and the Mountainside Mine. Chestnut had a school, train depot, saloon and boarding houses (Whithorn and Whithorn n.d.). The post office closed in 1914 (Cheney 1984).

Unlike the towns of Timberline and Chestnut which were unorganized groupings of houses and businesses, the town of Storrs was laid out in an organized manner. It was built by the Amalgamated Copper Company for the workers at the Washoe Mines. The houses were painted white and had running water and electricty. The town had a post office, boarding house, mercantile store and school. The map of the town also shows a hospital (Roberts 1966). It was Amalgamated Copper Company's model coal mining town intended to serve the model Washoe Coal Mine and facilities. In 1910 it was realized that the Washoe Mine could not economically supply a sufficient quantity of coking coal and it was shut down. The houses at Storrs were auctioned off shortly after (Whithorn and Whithorn n.d.). Only the foundations remain of the community today.

The three large-scale mines in the district were Rocky Creek (Chestnut), Mountainside and Washoe. Coal from the Washoe was made into coke for the smelters in Butte and Anaconda. The majority of the coal from the former two mines was used as steam locomotive fuel on the railroad.

A branch line known variously as the Turkey Trail Railroad, Mountain House branch or the Yellowstone Park Railroad was run up Meadow Creek to transport coal to the mainline of the Northern Pacific Railroad at Chestnut. The line ran south for 15 miles to the mines at Chimney Rock. It was originally called the Turkey Trail Railroad since Meadow Creek at one time was known as Turkey Creek. The railroad was built by Charles W. Hoffman, who in 1895, cancelled his mine leases with the Northern Pacific

Railroad at Timberline Creek and moved his operations over to Trail Creek. He purchased the Mountain House Mine from Sloan, Ferguson and McIntyre and needed a rail line from the mine to the Northern Pacific Railroad's mainline. In 1898 he contracted with A. B. Cook to build the branch line and obtained financing from Col. W.D. Turner. Hoffman was unable to pay off the loan so Cook ended up with the railroad, extending it four more miles to Chimney Rock where he had recently purchased the Maxey Brothers Mines. The Northern Pacific Railroad provided an engine, cars and crew to haul the coal.

When the Amalgamated Copper Company began development of the Washoe Mine in 1902, Northern Pacific leased the line to haul the coke and coal from the Washoe. It was then called the Mountain House branch.

In 1903 Daniel Maxey reacquired the Maxey Brothers Mines through foreclosure and Col. W. D. Turner got back the Turkey Trail Railroad. Maxey purchased two Porter saddle-back engines to pull the coal cars. After Turner passed away, Charles Garnier and Wilfred Johnson purchased the railroad bed and track, speculating they could sell it to the Milwaukee Railroad for the planned railroad from Three Forks, Montana to Yellowstone Park via Trail Creek. They renamed it the Yellowstone Railroad but when the Milwaukee Railroad's plans did not materialize, Garnier and Johnson tore up the track in 1918 and sold it for scrap. The Maxey family was left with engines but no railroad to run them upon (Van Aken 1984; Roberts 1966; Whithorn and Whithorn n.d.; Maxey 1984).

The three large mines were shut down by 1910. A few small mines (e.g., Meadow Creek Coal Company Mines) continued to operate until the early 1920s. As in the Timberline coal district, mining resumed again in the 1930s. This time the coal was sold exclusively for local domestic use. Mines that opened during the 1930s are the Miller, Harris-Murphy, Whitehead-Robinson, and Harris-Murphy-Rouse; the latter three being part of the Meadow Creek complex. The Whitehead-Robinson, which operated until 1942, was the last to shut down.

Very little remains of the early mines or the later small mines. The Washoe Mine with the coke ovens and foundations has the most structural remains of the large mines. This mine has a standing, but badly deteriorated, tipple and loading chute. The 1930s era mines inventoried for this project had no standing structures. However, one of the Miller Mines located in the Meadow Creek district but not inventoried for this project, is the most intact of the later small mines.

HISTORIES OF THE STUDY GROUP MINES

The coal mines examined in this report are within the Gallatin County portion of the Livingston Coal Field. Histories of the mines are illustrative of two periods of coal development. The first period was dominated by large commercial mines, while the second period was characterized by small commercial mines mines selling coal locally for domestic use. The first period ended when the easily obtained coal was exhausted. The second period began when the Great Depression of the 1930s compelled the local citizens to find alternative means of earning a living and ended by the time of World War Two. Coal mining in this area has never resumed since alternative forms of energy, such as fuel oil, natural gas and electricity, became readily available.

Woodland Mine (24GA770)

This site is located 1/4 mile north and 500 ft above Timberline Creek. It is a few feet below the top of a mountain ridge. The location today consists of a collapsed adit, coal slack dump, loading chute and remains of a building. There are no standing structures.

The Woodland Mine was opened by Frank Woodland in 1935 and closed in 1943. Production was small and the coal was sold locally for domestic use. A horizontal drift was driven 800 ft eastward into the Cokedale bed. In 1938 a slope was made near the adit and a second level 50 ft below the first was developed. This entry extended 300 ft eastward (Roberts 1966). Only the upper 2-1/2 ft of the 8 ft thick Cokedale bed could be marketed since there was no washing plant at the mine to clean the lower coal. The mining technique used was room-and-pillar with no specific spacing.

Ross Mine (24GA771)

The Ross Mine is located near the top of a mountain ridge 1/4 mile north of Timberline Creek. The mine entry is 800 ft east of the Woodland Mine entry. The Ross Mine was opened by Ray Ross in 1934 and was closed in 1941. The mine was a small operation selling coal locally in Bozeman for domestic use. It has a 150-foot inclined shaft from which three levels were driven eastward on the Cokedale bed. The first and second levels extended 750 ft eastward and were mined to near the surface. The third level, which was mined last, extended 220 ft eastward (Roberts 1966).

The mining technique was room-and-pillar with no specific spacing (Roberts 1966). The site today consists of two collapsed mine entries, a collapsed air shaft, a coal slack dump, two collapsed buildings and partial remains of two coal chutes. There are no standing structures.

Washoe Mine (24GA772)

The first mine at the Washoe site was the Hodson Mine which was opened by Enoch Hodson in 1883. Production was small with the coal being sold locally. The mine was worked intermittently with less than 12 miners employed (Roberts 1966).

The first entry for the Hodson Mine was an inclined shaft into the 3 ft thick (excluding a 12-inch parting) Cokedale coal bed which dips 35° north/east in this area. In 1888 a second entry was driven 650 ft in order to intercept the Cokedale bed 350 ft below the first entry. The mine adit followed the Cokedale bed 900 ft to the northwest with rooms opened above the drift. No mining occurred to the south since a fault cuts across the coal seam in that direction (Roberts 1966).

The Washoe Coal Company acquired the property in 1902, although the company did not continue development of the mine. Calvert's (1912) report on the Livingston and Trail Creek coal field incorrectly called the Hodson Mine the Washoe Mine No. 1. When Calvert visited the mine in 1908 it was being leased by J. D. Evans who had just finished putting the mine in operating condition and was about to begin shipping coal. The mine was probably closed down in 1910. Production in 1909 was 6950 tons and in 1910 was 6073 tons. There were nine miners (Montana Inspector of Mines 1910).

In 1902 the Washoe Coal Company, a subsidary of Amalgamated Copper Company (in 1910 Amalgamated's vast holdings became part of Anaconda Copper Company), began development of the property adjacent to the Hodson Mine as a model mine complete with company town. The location for Amalgamated Copper Company's model coal mine, plant facilities and town was found by a Northern Pacific Railway Company field party under the direction of L.S. Storrs in 1901. The purpose of this development was to obtain coal of sufficient quality for coking to be used in the smelters in Anaconda and Great Falls. It was hauled to the Northern Pacific main line at Chestnut on a line leased by the Northern Pacific Railroad called the Mountain House branch since it ran to Mountain House on Trail Creek. (Roberts 1966; Rowe 1906; Whithorn and Whithorn n.d.; Van Aken 1984).

Development of the mine included the construction of a large Luhrig washing plant, a steam-powered electric plant, a reservoir on Goose Creek, the town of Storrs and coke ovens. The reservoir was necessary in order to obtain a reliable source of water for washing the coal. The original plan called for 200 coke ovens; 100 ovens south of the washing plant and 100 ovens north of the washing plant, but only the ovens to the south were completed. Other facilities included a machine shop, blacksmith shop, barn for the mules (used to haul the coal to the tipple from the mines), barn boss residence, boarding house and mine foreman residence. The town of Storrs, which is about 1/4-mile north of the site, was platted out to include not only residences but also a public school, firehall, butcher shop, general merchandise store, hotel and hospital (Roberts 1966; Rowe 1905; Montana Inspector of Mines 1905-1906; and Whithorn and Whithorn n.d.).

Four mines were opened up by the Washoe Coal Company with the majority of the develoment on the Paddy Miles and Storrs No. 3 coal beds. These beds are located in a tightly folded syncline with dips from 35 to 45 degrees. The heating and compressive forces which resulted from this folding made the coking quality coal. Unfortunately, this folding also introduced a considerable amount of clastic material, some of which could neither be hand-picked out or washed away in the washing plant, and much of the coal was useless for coking (Roberts 1966).

The entry for Mine No. 1 is about 100 ft above the Meadow Creek valley floor. This is slightly higher than the washing plant which is about 1/4-mile to the northwest. Mules pulled coal cars from the mine to the tipple at the washer. The underground workings extended some 500 ft to the north and 800 ft to the south from the 600 ft long mine adit (Roberts 1966; Rowe 1905).

The entry for Mine No. 2 is located about 300 ft west of Mine no. 1 and is at a similar elevation. It was a small mine with a 500 ft long adit to the southwest with the room and pillar mining taking place on the upslope side (Roberts 1966).

Mine No. 3 was the biggest producer of the four mines. The entry was about 500 ft above the washing facilities and over 1/2-mile to the south. Mules pulled coal cars on a narrow gauge track from the mine entry along the face of the mountain to a location above the tipple and washer. Here the coal was weighed at the scale house and sent down an 800 ft long chute to a bunker. From the bunker the coal was hauled about 500 ft north to the tipple. After being washed it was hauled to the coke ovens located 400 ft to the south. Only about 50 of the ovens nearest the washers were used (Roberts 1966; Rowe 1905).

The underground workings at Mine No. 3 extended 3600 ft north of the mine's portal. The majority of the coal was mined out of the Storrs No. 3 bed located within the first 1000 ft of the entry. About 1200 ft from the entry a crosscut was made into the Paddy Miles and Cokedale beds. Unfortunately, these beds did not contain sufficient quantities of coking quality coal for further development (Roberts 1966).

The entry for Mine No. 4 is about 250 ft below Mine No. 3 and 400 ft to the east. This horizontal drift was driven 860 ft northward on the Big Dirty Bed. Here the bed lived up to its name and none of its 10 to 25 ft thick seam yielded coal of commercial value (Roberts 1966).

Rowe (1906) considered the Washoe Mine to be one of the most modern and up-to-date in the United States. In 1903 it employed between 100 and 200 men. Due to labor trouble in 1905 and extreme faulting of the coal seam only 500 tons of coal were mined. There were 10 miners and six outside workers (Rowe 1905; Montana Inspector of Mines 1905). In 1907, after spending about $700,000 in opening and equipping the mine, the Washoe Coal Company shut down the operation. That year it was worked for 90 days and produced 14,978 tons of coal. There were 43 miners, five inside men, and 50 outside men. Sufficient tonnage of clear coking coal was never found (Parson 1907).

In 1910 the houses and stores at the town of Storrs were auctioned off and the washer and adjacent buildings were burned (Whithorn and Whithorn n.d.).

The mine sat idle until 1915 when the Maxey Brothers took it over. Under the name of Chestnut Hill Coal Company, they mined a small amount of coal for domestic trade in Bozeman (Roberts 1966). In 1921 the mine was leased by W. D. Gibson, but he never reopened it (Roberts 1966).

Only foundations and the coke ovens remain from what was at one time a rather large and complex coal mining facility. The only standing buildings very likely date from the period after mining and they are in a deteriorated condition.

Other standing structures are the Washoe coke ovens and foundations for the complex that housed the washer, machine shop and engine room.

Mountainside Mine (24GA773)

The site today consists of five collapsed mine entries, eight coal slack dumps, two building foundations, two water ditches and a small sandstone quarry. The abandoned Turkey Trail railroad line and the original road to Timberline Creek pass through the site. There are no standing structures.

The first mine at the site was opened by Daniel Maxey in 1881. The Maxey Mine consisted of a horizontal drift driven southward to intercept the Cokedale bed which dipped 23° to 60° to the northeast and was from 4 ft to 20 ft thick. Coal from the mine was sold for domestic use in Bozeman. In 1883 the mine produced 236 tons and in 1884 it produced 394 tons. In 1884 the mine was purchased by the Utah and Northern Railroad Co., a subsidiary of the Union Pacific Railroad Co. In 1885 they shut down the mine and experimented with the coal's coking ability. The railroad was shipping large quantities of coke from Utah to the copper smelters in Butte and was looking for a closer source. The results of the experiments were disappointing and the railroad did not continue operations at the mine (Roberts 1966).

The Mountainside Coal Company in the late 1880s leased the mine from the Union Pacific Railroad Company. Under the direction of M.J. Johnson, a new horizontal drift adjacent to the Maxey Mine entry was driven into the Cokedale bed. The drift trended southward and by 1900 the 70 men employed at the mine had driven it 1800 ft into the mountainside. An additional 12,000 ft were added to the drift the following year with areas to be mined blocked out for room and pillar mining. A 12 ft diameter fan provided air to the mine. The coal was sold locally (Roberts 1966; Montana Inspector of Mines 1904).

Across the creek from what was now called the Mountainside Mine [not the Maxey], the Northwest Improvement Company, a subsidiary of Northern Pacific Railway Company, was operating the Chestnut Mine (i.e., Rocky Canyon Mine). In the early 1900s the Chestnut Mine was referred to as the oldest coal mine in Montana, having begun operation in 1867 (Rowe 1906; Montana Inspector of Mines 1910; Calvert 1912). In 1902 the Northwest Improvement Company purchased the Mountainside Mine for coal to fuel their locomotives since the Northern Pacific Railway's mainline was adjacent to the site. In 1903 a horizontal drift was dug connecting the workings of the Chestnut and Mountainside. During the same year an inclined shaft was driven to a depth of 500 ft (Montana Inspector of Mines 1904; Roberts 1966).

A new and up-to-date tipple was erected with a washer of 600 tons daily capacity and hand picking tables for removing the waste. By 1907 there were four hoisting engines (Rowe 1908).

All mining was done by hand and, for the most part, explosives were not needed to loosen the coal. Mining was done on the rooms-and-pillar method. After the loosened coal partially filled the lower part of a room it was loaded into the cars. Mules then hauled the coal cars from side entries to where a steam powered cable hoist lifted them out of the mine. Water in the lower workings was removed by two electric pumps that ran continuously. Because of gas in the lower workings, the Davey and Clancy safety lamp was used in these areas (Rowe 1908; State Mine Inspector 1909-1910).

After the Northwest Improvement Company purchased the mine in 1902 and until the closure of the Chestnut Mine in 1907, statistics on the production and number of men employed at both mines were combined in the Montana Inspector of Mine reports. During the years from 1903 to 1908 both mines had annual productions from 43,000 to 124,000 tons and employed 126 to around 200 men. The Mountainside Mine in 1908 produced 29,191 tons with 174 men employed; in 1909 it produced 8,117 tons with 17 men employed; and in 1910 it produced 15,672 with 32 men employed (Montana Inspector of Mines 1909 and 1910).

When Calvert (1912) visited the mine in 1908 the mine was shut down. He considered the coal to be peculiar in appearance since it was dull and granular with lamellae of shiny vitreous coal running through it. At this time practically all the coal from the old workings had been removed and development was confined to the lower workings. The mine was closed in 1910. The State Inspector Report of 1911-1912 reported that the track, pumps, etc., had been pulled out and the washery was scheduled to be torn down and removed in the near future.

The map of the underground workings in Roberts (1966: Plate 8) shows that the mine had two main entries; one near Rocky Creek and one up the mountain slope immediately east of Meadow Creek. Immediately south of the latter entry are two prospects.

Meadow Creek Mine Complex (24GA774)

The site, which is on the steeply sloping face of a mountainside, contains six mines. Mining took place intermittently from 1884 to 1942. The coal from the mines was sold locally for domestic use. Today the site consists of collapsed adits, coal spoil dumps, two collapsed buildings and the remains of a coal chute located on a steep sloping mountain side.

Daniel Maxey opened up the Meadow Creek No. 3 Mine in 1884 and was the first operator at the site. After a few years, Maxey moved his operations to the Trail Creek coal district and opened up the Maxey Brothers Mine (Roberts 1966). The site is not called the Maxey Mine in this report so it would not be confused with the Maxey Brothers mines on Trail Creek. Daniel Maxey also opened up the first mine at the Mountainside Mine (24GA773). The name Meadow Creek No. 3 was given to the mine by W. D. Gibson around 1921. The mine was developed on the Storrs No. 3 bed by two horizontal drifts, the longer of which was about 600 ft in length.

In 1918 Daniel Maxey's sons returned to the Meadow Creek site and opened up a horizontal drift further up the mountainside from their father's mine. This is known as Meadow Creek No. 2 Mine. The Maxey Brothers mined about 50 tons per day for a year and in 1922 W. D. Gibson, owner of Meadow Creek Coal Company, took over the mine. Until it was closed in 1924, it was Meadow Creek Coal Company's largest producing mine (Roberts 1966).

In 1921 W. D. Gibson obtained the leases on several mines along Meadow Creek and Trail Creek. Besides the above two mines, he leased the Washoe Mine and the Maxey Brothers Mines on Trail Creek. In 1922 he opened Meadow Creek No. 1. It was during this period the above mines were labeled Meadow Creek Mine No. 1, Meadow Creek Mine No. 2 and Meadow Creek Mine No. 3. Curiously, the older the mine the larger the number given to it. The Meadow Creek No. 1 Mine was located adjacent to an exposed diabase dike which turned out to limit the amount of accessible coal. This was a small mine on the Cokedale bed and only operated for one year (Roberts 1966).

During the early 1930s three more mines were opened: the Whitehead-Robinson, Harris-Murphy and Harris-Murphy-Rouse. The Whitehead-Robinson Mine opened in 1931 and closed in 1942. It was the largest producer of the three. Like Meadow Creek Nos. 2 and 3, and Harris-Murphy Mines, this mine also worked the Storrs No. 3 bed (Roberts 1966).

The Harris-Murphy was a small mine in which a drift was driven along the lower level of the Meadow Creek No. 2 Mine (Roberts 1966).

The Harris-Murphy-Rouse Mine was opened up in 1931 in an unsuccessful attempt to intersect the Storrs No. 3 bed (Roberts 1966).

Pendleton Mine (24GA775)

H. D. Pendleton opened the mine in 1943 and discontinued operations in 1947. The Pendelton Mine is about 300 ft southeast of Timberline Mines 1 and 2. It was a horizontal drift driven northward into the Cokedale bed for 390 ft. Coal production was quite small with the coal being sold locally (Roberts 1966). The mining technique was a modified room-and-pillar system with 45 ft centers (Robert 1966).

Today the site consists of two collapsed portals, a coal slack dump, a collapsed coal chute, and a collapsed building.

Timberline Nos. 1 and 2 Mines (24GA776)

Timberline No. 1 and No. 2, are two of the six mines opened up in the bottom of a narrow ravine along Timberline Creek by C. W. Thompson, manager of the Northern Pacific Coal Company (a subsidiary of Northern Pacific Railroad), during the early 1880s. In 1883 a narrow gauge railroad was run up Timberline Creek from the Northern Pacific mainline at West End (which is located near the Bozeman Pass). The Timberline Mines were leased to C. W. Hoffman in 1888. He operated the mines until they were closed in 1895. During this period, G. B. Hoffman was manager; James Anderson, superintendent; Thomas Atherton, pit boss; and John Rufly, fire boss. Collectively, the mines employed around 100 to 140 men and produced more than 200 tons of coal per day. The coal was used exclusively by the Northern Pacific Railroad for locomotive fuel on the run between Glendive, Montana and Sprague, Washington (Roberts 1966; Montana Inspector Reports 1891-1895). Little information is available on the surface workings of the mine. It is not known whether each mine had its own washing plant nor is it known what type of tipples were used.

Timberline No. 1 was a horizontal drift driven westward for 600 ft on the Cokedale bed which slopes 52° north/east. Eldridge (1886) reports it had fewer and smaller partings than did the mines to the south. Immediately east of this entry an inclinded shaft was driven into the Cokedale bed (Roberts 1966).

The mine was opened around 1881 (Roberts 1966). The exact date of closure is not known but it was probably shut down by 1895 since all of the Timberline mines were closed at that time. The Montana Inspector of Mines (1895) reported that the mine had opened a new tunnel and explosive gases were reported.

Timberline No. 2 was located 200 ft east of the Timberline No. 1 portal. It was a horizontal drift that ran eastward into the west-facing mountainside for 500 ft along the Cokedale bed (Roberts 1966). The mine probably was opened up about the same time as Timberline No. 1. Apparently, it was last worked in 1895. The Montana Inspector of Mines (1895) stated that a new tunnel had been opened and, like the No. 1 mine, it contained explosive gases.

In 1894 the underground workings of the Timberline No. 1 and No. 2 Mines were connected with those of the Timberline No. 4 Mine. This mine then became the haulageway for Timberline No. 1 and No. 2 Mines. A coal spoils dump, three collapsed adits and a leveled off place where a building stood are all that remain of this operation.

Timberline No. 3 Mine (24GA777)

The Timberline Mines were owned by the Northern Pacific Coal Company, a subsidiary of the Northern Pacific Railroad. There were six mines called the Timberline No. 1, No. 2, No. 3, No. 4, No. 5 and No. 6. They were located along the north side of the Timberline Creek drainage with Timberline No. 3 being the farthest mine to the west and Timberline No. 6, which was two miles away, the farthest mine to the east. The adits are at the base of the hill and the coal slack dumps are on the terrace adjacent to Timberline Creek. There are no remaining structures.

Early reports on the mines generally combined information on production, number of men working, etc., under the heading of "Timberline Mines". In 1882 a narrow gauge track was run from West End up Timberline Creek to the mines. At West End, which is near the top of Bozeman Pass, the coal was loaded onto the Northern Pacific Railroad's main line trains. The coal was used exclusively by the railroad (Roberts 1966; Montana Inspector of Mines 1891-1895).

Timberline Mine No. 3, which was started in the 1880s and closed in 1895, was by far the largest producer in the area of Timberline Creek (known as the Timberline coal district) and one of the largest producers in the Livingston coal field (Roberts 1966). Daily production from 1885-1895 averaged 300 tons declining to 200 tons near the end of this period (Montana Inspector of Mines 1895). It became known locally as the Stinking Water Mine because of the odor given off by the sulfur-bearing springs that issue from the mine.*

*The U.S.G.S. Bozeman Pass 15 minute quadrangle shows the mine as Number Four Mine and the Stinking Water Mine some distance to the west. However, there is no mine at the latter location.

The coal was used for locomotive fuel by the Northern Pacific Railway Company on the run from Glendive, Montana to Sprague, Washington. From 1888 to 1895 C. W. Hoffman leased the mine from the Northern Pacific Coal Company. The mine was closed after the readily available coal was removed and expensive improvements would have been necessary to continue mining (Roberts 1966).

The mine started with a horizontal entry that extended eastward into the Cokedale coal bed. Here the Cokedale bed varied from 4-1/2 to 17 ft thick and contained several partings. At one part of the workings the Cokedale and Paddy Miles beds united, resulting in nearly 20 feet of good coal, which was called the Bonanza bed. Near the adit of the horizontal entry a tunnel at a 30° incline extended eastward into the NE1/4 Section 23 (Roberts 1966). The main incline was 900 feet deep by 1895 (Montana Inspector of Mines 1895). However, explosive gases were found in these lower workings of the mine (Montana Inspector of Mines 1896).

Little information is available on the surface facilities at the mine. The Inspector of Mines (1891) mentions that the winch used to pull the cars out of the mine had a 1-inch rope and was powered with a steam engine that had two 12-inch cylinders and a 24-inch stroke. The method of circulating the air in the mine was unusual. Instead of blowing air into the mine, the fan pulled it out (Montana Inspector of Mines 1892).

During the 1880s and early 1890s a sizable community known as Timberline was established along Timberline Creek in Sections 23, 24 and 25. While the Timberline No. 3 Mine was at peak production, more than 300 miners and their families lived in the community (Roberts 1966).

The mine was briefly re-opened in 1940 by Henry Merrick who mined a few pillars (Roberts 1966).

Timberline No. 4 Mine (24GA778)

Timberline No. 4 is one of six mines opened up along Timberline Creek by C. W. Thompson, Manager of the Northern Pacific Coal Company, a subsidiary of Great Northern Railroad, during the early 1880s. In 1883 a narrow gauge railroad was run up Timberline Creek from the Northern Pacific mainline at West End (which is located near Bozeman Pass). The Timberline Mines were leased to C. W. Hoffman in 1888. He operated the mines until they were closed in 1895. By this time all of the readily available coal had been removed and in order to continue mining, many expensive improvements were required. Little information is available on the exterior workings at this mine and the other Timberline Mines.

About 1894 the underground workings of the Timberline No. 4 Mine were extended 850 ft northeast in order to connect to those of Timberline Mines Nos. 1 and 2. Timberline No. 4 Mine then became the haulageway for these mines (Roberts 1966). All that remains of the No. 4 Mine is a coal slack dump.

Timberline No. 5 Mine (24GA779)

The Timberline No. 5 mine was opened around 1890 by the Northern Pacific Coal Company, a subsidary of Northern Pacific Railroad. The mine is one of six mines that was opened along Timberline Creek by the Northern Pacific Coal

Company. The coal from the mine was used as fuel for the Northern Pacific Railroad locomotives. The tunnel for the mine extends 1800 ft north in order to intersect the Cokedale coal bed. Ultimately, it was intended as a haulageway for the Timberline No. 3 mine workings. However, the mines were closed before this was completed (Roberts 1966).

Frank Woodland and Ray Ross in the 1930s re-opened 1300 ft of the mine tunnel in a second unsuccessful attempt to develop the mine (Roberts 1966). All that remains at the site is a closed adit, a coal slack dump, and a leveled off place where a building probably stood.

Timberline No. 6 Mine (24GA780/24PA778*)

As discussed above, the Timberline Mines were owned by the Northern Pacific Coal Company, a subsidiary of Northern Pacific Railroad, and worked under lease by C. W. Hoffman. There were six mines called the Timberline No. 1, No. 2, No. 3, No. 4, No. 5 and No. 6. They were located along the north side of the Timberline Creek drainage with Timberline No. 3 being the farthest mine to the west and Timberline No. 6, which was two miles away, the farthest mine to the east.

The No. 6 mine was opened around 1881 and closed around 1892 (Montana Inspector of Mines 1891). From the entry an adit was driven about 150 ft to the Cokedale bed which dips 79° east. These levels were mined for about 500 ft. The room-and-pillar system of mining was employed and production from the mine was small. The coal seam contained many partings and required washing (Roberts 1966). No information was available on whether the washing facility was located at the mine or if the coal was shipped to Timberline Mine No. 3 for washing.

The mine was reopened in 1933 by Tom Coulston who worked the mine until 1936. Several of the pillars were mined and a fourth level was developed to a depth of 60 ft. The coal was sold for local domestic use (Roberts 1966). Remains of the operation are minimal: a large coal spoils dump, two collapsed adits and several subsidence holes.

Q and H Nos. 1 and 2 (24GA781)

These mines were opened in the 1880s by P. J. Quealy and C. W. Hoffman and were were closed down in 1888 when C. W. Hoffman leased the Timberline mines from the Northern Pacific Coal Company, a subsidiary of Northern Pacific Railroad Company. They are known as Q and H Mines Nos. 1 and 2. Both were horizontal drifts driven southward along the strike of the Cokedale bed. This site is adjacent to the coal slack dumps of the Timberline No. 3 Mine. Roberts (1966) reports the Mine No. 2 entry was 300 ft above the Mine No. 1 entry although the entries currently appear to have about 120 ft elevation difference between them. Mine No. 1's adit was about 900 ft long. Mine No. 2 was 800 ft long, and the raises from which the coal was mined were 250 ft long. Coal from Mine No. 2 was hauled down the mountain in coal cars that ran on a double track system. As the loaded coal car was lowered down the mountain side it pulled up an empty car on the adjacent track. A similar system of getting coal down a steep slope was used in central Montana at the Brodie Mine (24FR633) which operated in the early 1920s (Munson 1987). All that remains of this operation are portions of the coal transport system, five mine portals and the coal spoil dumps.

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*Note that the Timberline No. 6 is in both Gallatin and Park Counties and consequently has been given two site numbers.

All of the coal was sold to the Northern Pacific Coal Company which was operating the Timberline No. 3 Mine across the creek from the Q and H Mines (Roberts 1966). It is likely that the coal from the Q and H Mines was washed at the Timberline No. 3 Mine washing plant.

Hyer Prospect (24GA782)

The site was an inclined shaft on the Cokedale bed. It was a prospect that was opened up in the 1880s (Roberts 1966) located about an eight of a mile northwest of Timberline Mine No. 6. What remains is essentially all that was ever there: a coal slack dump and an adit portal.

PREHISTORIC SITE NARRATIVE

Coke Oven Terrace (24GA782)

Coke Oven Terrace site (24GA783) is a prehistoric site consisting of surface and subsurface lithic debitage and tools. It is located on both sides of an unnamed creek which flows into Meadow Creek 200 m to the east. Lithics cover a slightly sloping area with springs along the east side of the site and an area north of the tributary creek. The site is within the boundaries of the Washoe Mine site (24GA772) and the cultural deposits have been impacted by the mining and associated industrial activities. Surface lithics cover an area 120 m x 120 m but the limits of the site cannot be determined without further testing.

Impacts by mining might have disturbed portions of the deposit but appear to have buried others. Natural erosion and subsequent deposition, as well as man-caused deposition, have built up the soil depth in some areas of the site making deep testing necessary. Two of the four test units recovered lithics from surface to 60 cm below the surface. Two end scrapers, a projectile point mid-section and a biface fragment were the tools recovered from the surface and the test units.

Although no temporally or culturally diagnostic tools or artifacts were recovered, the point mid-section suggests a medium to large point indicative of projectile tips generally in use prior to the widespread acceptance of the bow and arrow. It can be suggested that this is a high country summer camp which was occupied by at least one cultural group prior to A.D. 500.

If any disturbance is to occur within the site area, it is recommended that further subsurface testing be done at the site in order to establish the extent of the buried cultural deposits and whether they are still intact. Testing results suggest that much of the mining activities at the site consisted of dumping fill and debris on the site area but it appears that the top soil was not removed. If this is indeed the case, the prehistoric cultural deposit should be intact. The site is recommended as potentially eligible to the NRHP.

SUMMARY AND RECOMMENDATIONS

During the course of fieldwork and research for this report the following abandoned coal mines were examined, recorded, mapped and photographed: Woodland Mine (24GA770), Ross Mine (24GA771), Washoe Mine (24GA772), Mountainside Mine (24GA773), Meadow Creek Mine Complex (24GA774), Pendleton Mine (24GA775), Timberline Nos. 1 and 2 Mines (24GA776), Timberline No. 3 Mine (24GA777), Timberline No. 4 Mine (24GA778), Timberline No. 5 Mine (24GA779), Timberline No. 6 Mine (24GA780 and 24PA778), Q and H Nos. 1 and 2 (24GA781), and Hyer Prospect (24GA782). One prehistoric site, Coke Oven Terrace (24GA783) was located at the Washoe Mine. Table 3 provides a summmary of information for the sites.

The majority of the mines were established during two periods of mining activity. The first period began as Montana was undergoing its initial commercial and industrial development beginning in the 1890s and ending around 1920. At this time the large industrial mines dominated the mining activities. The second period of mining occurred during the Great Depression of the 1930s and ended in the early 1940s. During this period the only type of mines were the small commercial ones that sold coal locally, exemplified by the Ross, Woodland and Pendleton.

During the first period of mine development, the mines were often large, i.e., Timberline, Mountainside and Washoe, although there were also smaller commercial operations such as the Meadow Creek and Q and H Mines. These mines primarily produced steam coal for the locomotives on the Northern Pacific Railroad with the exception of the Washoe which was originally designed to provide coke for the Amalgamated Copper Company smelters. The railroad operated these mines through a subsidiary company during part or all of these mines' operating lives.

Small towns grew up around the large mines and died away when they closed. The towns were Timberline, Chestnut and Storrs. Timberline was located at the Northern Pacific Timberline mines, Chestnut was near the Mountainside Mine, and Storrs was adjacent to the Washoe Mine.

Although very little remains at any of the mines other than the adit portals and coal slack dumps, one other feature was was commonly found at the large and small mines. This was the coal chute (or at least, the remains thereof). The chutes were a primary component of the coal delivery system and were used to get the coal down the mountain slopes to the tipples or loading areas. All consisted of a single wooden ramp with sides except the chute at the Q and H Mine which was a double track system.

Virtually none of the original buildings remain at the mines except for the stone masonry foundations and the coke ovens at the Washoe. With the loss of the structures, the mine sites have been sufficiently altered from their original appearance, with subsequent loss of physical integrity, and are not recommended as eligible for listing on the NRHP.

The Washoe Mine, facilities and associated community of Storrs was planned as a model complex by the Amalgamated Copper Company (to become the Anaconda Copper Mining Company in 1910). Coke was needed for the smelters and it was thought that the coal at the Washoe Mine would produce this needed resource.

Although large amounts of money and effort were spent in mining coal, no coal of coking quality was ever recovered. The only standing buildings very likely date from the period after mining occurred at the site and they are in deteriorated condition. However, the coke ovens, washer plant and other foundations remaining qualify the site as eligible for listing under Criterion C. The masonry craftsmanship of these features embody the distinctive characteristics of a type and period of construction. The intertwining of rough-cut sandstone blocks, bricks and granite in order to meet the requirements of supporting structures and/or machinery or stand up to the heat produced by the coke ovens, illustrates both the technical and aesthetic achievements of skilled stone masons. Such masonry construction was rare after the turn of the century; even the washer facilities built at the nearby Mountainside Mine around 1903 used concrete with steel rebar for the foundation and footings.

The removal of the buildings at the washer, machine shop and engine room complex does not lessen the qualities of the stone work of the foundations; without the buildings the masonry work is better exposed. It is recommended that these structural features be avoided if possible during reclamation efforts, however, if impact is anticipated. It is recommended that further photographic documentation be undertaken as a mitigative measure.

The prehistoric Coke Oven Terrace (24GA783) has the potential to yield further information. If the site area is to be impacted, further testing would be warranted in order to possibly date and determine the site type. It appears, however, that current mine reclamation plans will not disturb the site area. The remaining sites have all been recorded, mapped and photographed and no further work is recommended.

Table 3. Summary of inventory data for the coal mines recorded on this project.

Site Name	Site Number	Dates of Operation	Major Historic Theme	Site Condition	Description and Comments
Woodland Mine	24GA770	1935-1943	Small mine opened during the Great Depression to supply coal locally.	Only a coal slack dump, a collapsed small building, and a collapsed coal chute remain.	The mine was opened by Frank Woodland. Only the upper 2-1/2 ft of the coal seam could be mined. The underground working extended west to within a few feet of the Ross Mine. This site is in the Timberline coal district.
Ross Mine	24GA771	1934-1941	Small mine opened during the Great Depression to supply coal locally.	Only a coal slack dump, two collapsed small buildings, and parts of two coal chutes remain.	The mine was opened by Ray Ross. The site is in the Timberline coal district.
Washoe Mine	24GA772	1883-1915	A mine that originally sold coal locally but then was purchased by Algamated Copper Company for coke for the smelters in Anaconda and Great Falls.	Only the coal spoil dumps, the coke ovens, the washer complex, & a small building remain. The structures are in a deteriorated condition.	The Washoe Mine site's first mine was opened in 1883 by Enoch Hodson to supply coal for local domestic needs. From 1902 to 1907 Amalgamated Copper Company took over the property and opened up four more mines and built 100 coke ovens. Sufficient coking quality was not found. In 1915 the Maxey brothers mined a small amount of coal from the mine. The site is in the Meadow Creek coal district.

Table 3. Summary of inventory data for the coal mines recorded on this project. (continued)

Site Name	Site Number	Dates of Operation	Major Historic Theme	Site Condition	Description and Comments
Mountainside Mine	24GA773	1881-1910	A mine that originally supplied coal locally and was purchased by the railroad to supply steam coal for locomotives.	Only the coal spoil dumps and the foundations for the washing complex and other buildings remain.	Daniel Maxey opened the first mine at the site in 1881. In 1884 the Union Pacific Railroad purchased the mine for $20,000 and experimented in making it into a coke producing plant. After failing to locate a sufficient quantity of coking coal the mine was leased to M.J. Johnson during the late 1880s to 1902. In 1902 the Great Northern Railroad purchased the property and built a large washer facility and a a new tipple. This site is in the Meadow Creek coal district.
Meadow Creek Mine Complex	24GA774	1884-1942	Small mines developed for domestic coal sales in the Bozeman area.	Only the coal spoil dumps, two collapsed buildings and parts of two coal chutes remain. The coal chutes are in ruins.	Daniel Maxey opened the first mine at the site and operated the mine for only a few years. His sons returned to the site in 1918 and opened another mine up the mountainside. In 1922 W. D. Gibson took over the mine and operated it until 1924. He also opened the Meadow Creek No. 1 Mine located on the east end of the site in 1921 which operated for about one year. During the 1930s three more mines opened at the site. They were the Whitehead-Robinson, Harris-Murphy, and Harris-Murphy-Rouse. The Whitehead-Robinson was the largest of the three and was the last to shut down in 1942. The site is in the Meadow Creek coal district.

Table 3. Summary of inventory data for the coal mines recorded on this project. (continued)

Site Name	Site Number	Dates of Operation	Major Historic Theme	Site Condition	Description and Comments
Pendleton Mine	24GA775	1943-1947	A small mine which opened during World War II to supply coal locally.	Only a coal slack dump, a collapsed small buildings, and a collapsed coal chute remain.	The mine was opened by H. D. Pendleton and was probably the last to open and last to close in the area. This site is in the Timberline coal district.
Timberline Nos. 1 and 2 Mines	24GA776	circa 1881-1895	One of six mines in the Timberline coal district which supplied coal to the Northern Pacific Railroad.	Only a coal slack dump remains.	The mine was started by C. W. Thompson, manager of Northern Pacific Coal Co., and leased by C. W. Hoffman from 1888 to 1895. This site is in Timberline coal district.
Timberline No. 3 Mine	24GA777	circa 1882-1895	One of six mines in the Timberline coal district which supplied coal to the Northern Pacific Railroad.	Only a large coal slack dump and the foundation for a steam boiler remain.	This mine was the largest producer of the six mines owned by the Northern Pacific Railroad on Timberline Creek. The coal from these mines was used exclusively for the run between Glendive, Montana and Sprague, Washington. This site is in the Timberline coal district.
Timberline No. 4 Mine	24GA778	1880s-1895	One of six mines in the Timberline coal district which supplied coal to the Northern Pacific Railroad.	Only a small coal slack dump remains.	This mine was used primarily as a haulageway for Timberline Nos. 1 and 2 Mines. This site is in the Timberline coal district.
Timberline No. 5 Mine	24GA779	circa 1890 to circa 1895	One of six mines in the Timberline coal district which supplied coal to the Northern Pacific Railroad.	Only a coal slack dump and footings for a steam engine remain.	This mine apparently did not produce much coal. Ultimately, it was intended to be a haulageway for the Timberline No. 3 Mine but the mines closed before this was completed. This site is in the Timberline coal district.

Table 3. Summary of inventory data for the coal mines recorded on this project. (continued)

Site Name	Site Number	Dates of Operation	Major Historic Theme	Site Condition	Description and Comments
Timberline No. 6 Mine	24GA780 and 24PA778	circa 1881 to circa 1892 and 1933 to 1936	One of six mines in the Timberline coal district which supplied coal to the Northern Pacific Railroad. It was reopened again in 1933 as a small mine to supply coal locally for domestic needs.	Only a coal spoil dump remains.	The mine is the furthest east of the Northern Pacific Railroad Timberline mines. Production from the mine was small. In 1933 Tom Coulston reopened a part of the mine in order to remove a few coal pillars. This site is in the Timberline coal district.
Q and H Mine	24GA781	early 1880s to 1888	A mine which supplied coal to the Northern Pacific Railroad. However, it was not owned by the railroad.	Only the coal spoil dumps and traces of the double car system for getting the coal off the mountain side remain.	The mine was operated by P. J. Quealy and C. W. Hoffman. The mines were closed down when Hoffman leased the Timberline mines from the Great Northern Railroad. This site is in the Timberline coal district.
Hyer Prospect	24GA782	circa 1880s	A prospect to check the quality and quantity of coal. Probably produced little coal.	Only a coal spoil dump remains.	The prospect was opened by a Mr. Hyer. No further information on the site was obtained. This site is in the Timberline coal district.

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APPENDIX A:

Site Forms

Woodland Mine (24GA770)
Ross Mine (24GA771)
Washoe Mine (24GA772)
Mountainside Mine (24GA773)
Meadow Creek Mine Complex (24GA774)
Pendelton Mine (24GA775)
Timberline Nos. 1 and 2 Mines (24GA776)
Timberline No. 3 Mine (24GA777)
Timberline No. 4 Mine (24GA778)
Timberline No. 5 Mine (24GA779)
Timberline No. 6 Mine (24GA780 and 24PA778)
Q and H Nos. 1 and 2 (24GA781)
Hyer Prospect (24GA782).
Coke Oven Terrace (24GA783)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA770	1.2 Site name/field designation: Woodland Mine	1.3. County: Gallatin

1.4 Township/range:

T 2S R 7E S1/2 NE1/4 SW1/4 of Section 24

1.5 UTM:

Zone 12 514085 Easting 5054060 Northing

1.6 Site type: historic coal mine	1.7 Recording status & comments: recorded, mapped and photographed

1.8 Administrative/surface ownership:

Gerald Miller
Trail Creek

1.9 Mineral ownership:

1.10 Project name:
Department of State Lands Abandoned Mines Reclamation Program

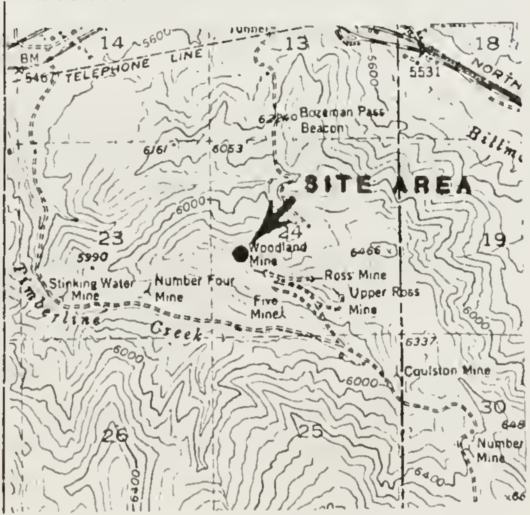
1.11 General narrative description of site:

This site is located 1/4 mile north and 500 ft above Timberline Creek. It is a few feet below the top of a mountain ridge. The site consists of a collapsed adit, coal slack dump, loading chute and remains of a building. There are no standing structures. The mine was a small commercial operation which operated during the late 1930s and early 1940s.

1.12 Map reference:
Bozeman Pass Quad. 1955 USGS 1:62500

1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:
Go west of Livingston, Montana on a frontage road along I-90 for 11 miles. Turn left 1/2 mile before you get to Bozeman Pass on Sleepy Hollow road and go south for 1-1/2 miles until you come to ridge top. The mine is on top of the ridge.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA770

2.1 Geographic setting:

2.2 Elevation: 1905 m 6250 ft.

General: The site is located on the eastern edge of the Rocky Mountains. Here the mountains are relatively low with sharp ridge tops and U-shaped valleys. Local: The site is located near the top of a ridge. It is on the south face of the narrow ravine through which Timberline Creek flows.

2.3 View/aspect:
Good view from the mine to the west, south, and east.

2.4 Major drainage:
Timberline Creek

2.5 Minor drainage(s):
none

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Timberline Creek	1/4 mile south	500 ft	all year round
b.				

2.7 Regional vegetation:
lodgepole pine - Douglas fir forest (Payne 1973)

2.8 Local vegetation:
fir, whortle berry, rose and wheatgrass

2.9 Soils:
Thin brown loam overlying sandstone.

2.10 Surface visibility/season of survey:
Fair/ May 1987

2.11 Other environmental factors pertaining to site location:
The site is located in the Timberline Creek coal mining district of the Livingston coal field. There are numerous abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA770

3.1 Condition of site:
Since the structures at the site have collapsed, the site is in a state of ruins.

3.2 Site significance (NRHP):
The site is one of several local coal mines which illustrate the resumption of mining in the Timberline Creek coal mining district during the 1930s. This resurgence of small scale mining occurred across the state of Montana during the 1930s. However, without the survivial of the structures that existed during the property's historic period it lacks integrity. The site is not recommended as eligible for listing on the NRHP.

3.3 Impacts:
The Department of State lands plans to cover and revegetate the coal slack dump, remove the debris and fill the cut that leads to the adit portal.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Tom Jerde	3.6 Site recorded by: Tom Jerde and Gene Munson	3.7 Revisions by:
Date: May 1987	Date: May 1987	Date:

3.8 Permit No.: NA

3.9 Publications concerning site:

Munson, Gene 1987 A Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County portion of the Livingston Coal Field, Montana. For the Montana Department of State Lands. GCM Services, Inc. Butte.

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3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
0	adit entry	N
1	coal chute remains	N
2	coal chute lower loading area	N

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24GA770

5.1 Site dimensions, how determined:
The site measures 100 m north/south x 60 m. This is the area in which the features are located.

600 m^2

5.2 Features:
Feature 1 is a collapsed adit portal. It is marked by a 75 ft long cut into the mountain ridge top. At the opening of the cut is a wooden door. Based on this it is assumed that the cut was at one time covered with a roof.
Feature 2 is a coal slack dump that measures 135 ft north/south x 80 ft east/west. It lies directly in front of the mine entry.
Feature 3 is a collapsed frame building located in front of the trench that leads to the mine entry. The building appears to have had a shed roof with tin covering. It probably measured around 12 ft north/south x 20 ft east/west. Scattered in around the feature are cans, motor parts, and a stove pipe.
(continued)

5.3 Artifacts (observed, collected):
wood debris, metal, 1-1/4" pipe, cans and motor parts (e.g., a three speed car transmission modified so it can be connected to a drum on a hoist). These items are located mostly near Feature 3.

5.4 Historical information and evaluation:
The Woodland Mine was opened by Frank Woodland in 1935 and closed in 1943. Production was small and the coal was sold locally for domestic use. A horizontal drift was driven 800 ft eastward into the Cokedale bed. In 1938 a slope was made near the adit and a second level 50 ft below the first was developed. This entry extended 300 ft eastward (Roberts 1966).

Only the upper 2-1/2 ft of the 8 ft thick Cokedale bed could be marketed since there was no washing plant at the mine to clean the lower coal. The mining technique used was room-and-pillar with no specific spacing.

5.5 References
(See Section 3.9)

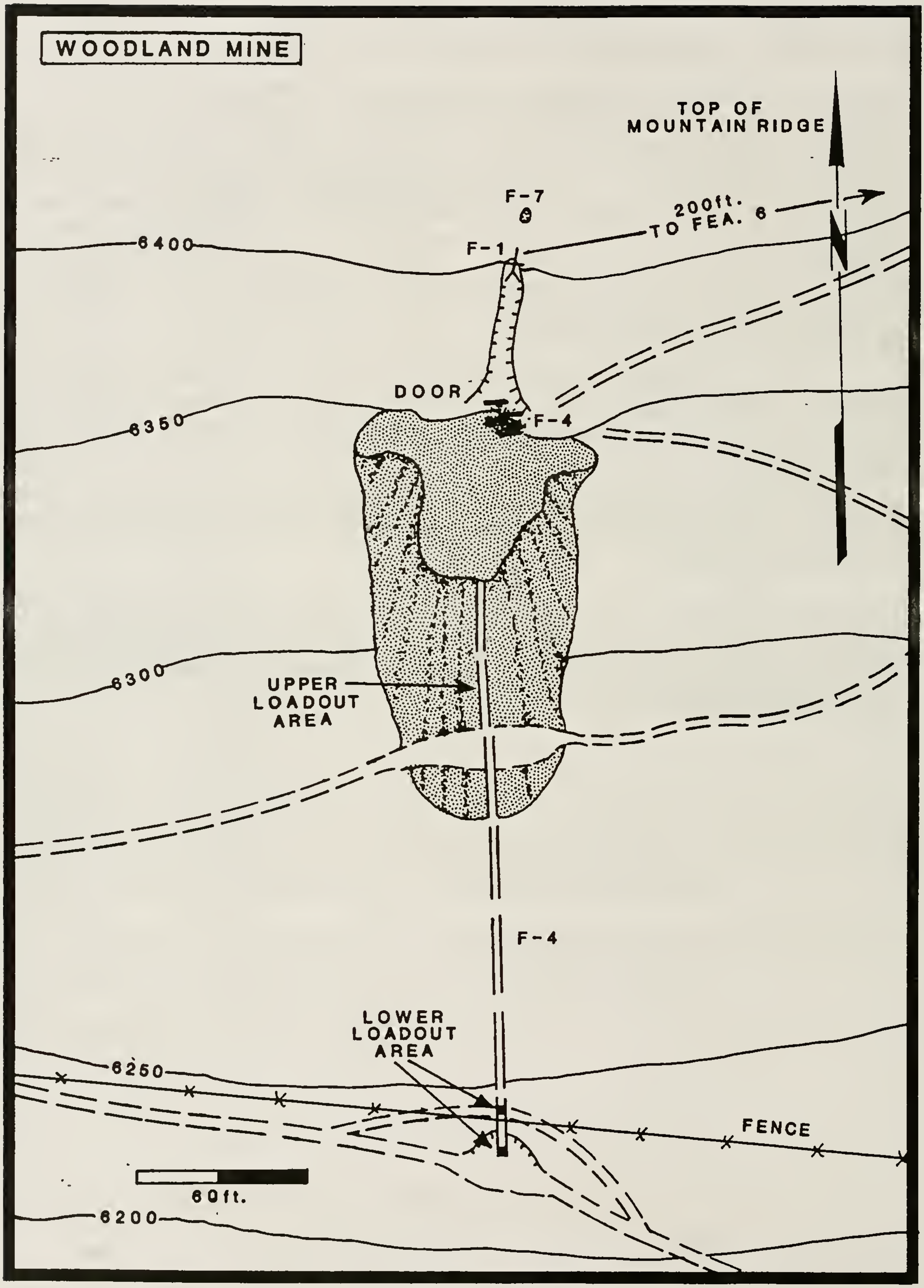
5.6 Subsurface testing, results, methods, etc.
None

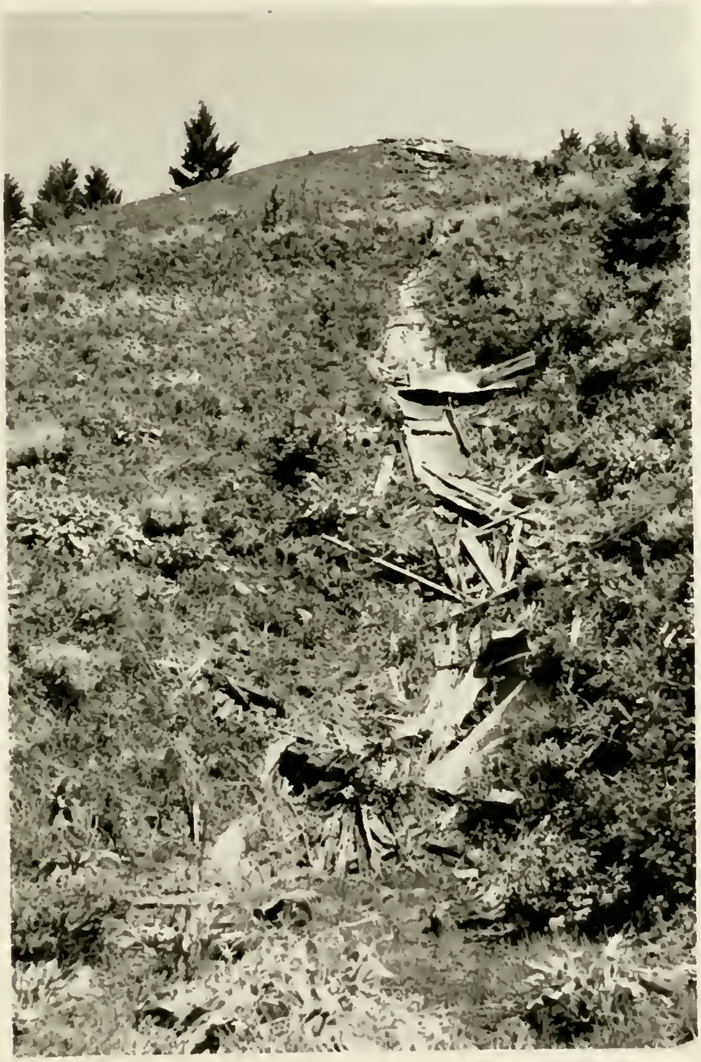
Feature 4 consists of the remains of a coal chute that begins at the top of the coal slack dump and extends down the face of the mountain for 200 ft. The inside width of the chute was 28 inches wide which is the width of the roofing tin that was nailed to the bottom of the chute in order to make the coal slide more readily. It appears that coal was loaded from the chute in two places, i.e., at the end of the chute and about one-fourth of the way down from the top of the chute. This assumption is based on the presence of coal screens at these two locations. The coal screens are made from 3/16 inch thick plate steel perforated with 1-1/4 inch holes. The screens were torch-cut to measure 28 inches x 48 inches. The lower loading area is about 150 ft below the mine mouth.

Feature 5 is an abandoned mine road that was cut into the mountain side in order to reach the loading areas at the coal chute. The road is about 10 ft in width and intersects with the Timberline Creek road located about 1/4 mile to the south.

Feature 6 is a 12 ft diameter x six ft deep depression about 200 ft northeast of the mine portal (Feature 1). Robertson (1966: Plate 1) shows an air shaft in this area; therefore, it is assumed Feature 6 is a collapsed air shaft.

Feature 7 is a 9 ft diameter by 3 ft deep depression located just north of Feature 1. A wooden fence, which is now collapsed, once surrounded the depression. The depression is near the location where a slope was developed in 1938 and may be the result of this activity (Roberts 1966; Plate 7 shows the location of the slope).

WOODLAND MINE
TOP OF MOUNTAIN RIDGE
F-7
200ft. TO FEA. 6
F-1
6400
DOOR
F-4
6350
6300
UPPER LOADOUT AREA
F-4
LOWER LOADOUT AREA
6250
FENCE
60ft.
6200



Coal Chute Remains At Woodland Mine (view North)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA771	1.2 Site name/field designation: Ross Mine	1.3 County: Gallatin

1.4 Township/range:

T 2S R 7E SW 1/4 NW 1/4 SE 1/4 of Section 24

1.5 UTM:

Zone 12 515030 Easting 5054055 Northing

1.6 Site type: historic coal mine	1.7 Recording status & comments: recorded, mapped and photographed

1.8 Administrative/surface ownership: Gerald Miller Trail Creek	1.9 Mineral ownership:
	1.10 Project name: Department of State Lands Abandoned Mines Reclamation Program

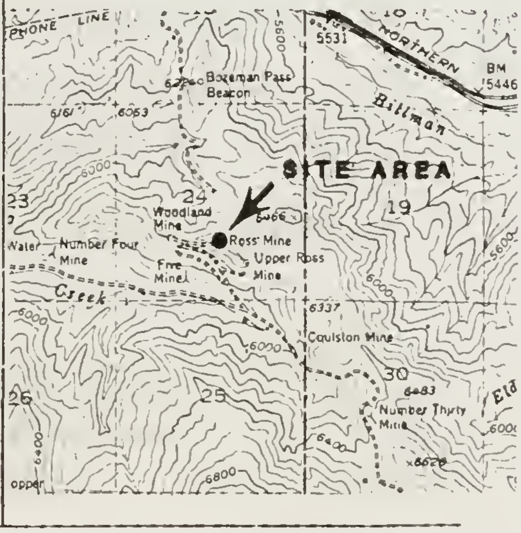
1.11 General narrative description of site:

The site consists of two collapsed mine entries, a collapsed air shaft, a coal slack dump, two collapsed buildings and partial remains of two coal chutes. There are no standing structures. The site is located near the top of a mountain ridge 1/4 mile north of Timberline Creek. The mine entry is 800 ft east of the Woodland Mine entry. The mine was a small commercial operation which operated primarily during the 1930s.

1.12 Map reference:
Bozeman Pass Quad. 1955 USGS 1:62500

1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:
Go west of Livingston, Montana on frontage road along I-19 for 11 miles. Turn left 1/2 mile before you get to Bozeman Pass on Sleepy Hollow road and go south for 1-1/2 miles until you come to ridge top. The mine is on top of the ridge.



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MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA771

2.1 Geographic setting:	2.2 Elevation: 1905 m 6250 ft. 1935 6350

General: The site is located on the eastern edge of the Rocky Mountains.
Local: The site is on top of a mountain ridge and extends down the south face.

2.3 View/aspect:
Good view to west, south and east for a mile at the most.

2.4 Major drainage: Timberline Creek	2.5 Minor drainage(s): none

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Timberline Creek	1/8 mile south	510 ft	all year round
b.				

2.7 Regional vegetation:
lodgepole pine - Douglas fir forest (Payne 1973)

2.8 Local vegetation:
wheatgrasses, hawthorne and Douglas fir. There are very few fir trees on the south facing mountain slope. On the north side the trees are quite dense.

2.9 Soils:
The soil is a thin brown loam. The Eagle formation sandstone outcrops at the site.

2.10 Surface visibility/season of survey:

fair/May 1987

2.11 Other environmental factors pertaining to site location:
The site is within the Timberline coal mining district of the Livingston coal field. There are numerous abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA771

3.1 Condition of site:
The site is considered to be in a state of ruins since the structures are collapsed and very badly deteriorated.

3.2 Site significance (NRHP):
The site is one of several local coal mines that marks a resumption of mining in the Timberline Creek coal mining district during the 1930s. This resurgence of small scale mining occurred across the state of Montana during the 1930s. However, without the survivial of the structures that existed during the property's historical period, it lacks integrity. The site is not recommended as eligible for listing on the NRHP.

3.3 Impacts:
The Department of State Lands plans to cover and revegetate the coal slack dump, remove the debris and fill the cut that leads to the adit portal.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Tom Jerde	3.6 Site recorded by: Tom Jerde and Gene Munson	3.7 Revisions by:
Date: 5-87	Date: 5-87	Date:

3.8 Permit No.: N/A

3.9 Publications concerning site:

Munson, Gene 1987 A Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County portion of the Livingston Coal Field, Montana. For the Montana Department of State Lands. GCM Services, Inc. Butte.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E.
1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D.C.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
8	coal spoil dump	WSW
9	adit entry at F-2	N
10	collapsed roof at adit entry F-3	NE
11 and 12	collapsed building debris	SW

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24GA771

5.1 Site dimensions, how determined: The site measures 73 m north/south x 170 m east/west. This is the area in which the features are located.

5840 m^2

5.2 Features:

See attached

5.3 Artifacts (observed, collected):
wood, metal, glass, pipe, round nails, belts and logs are scattered.

5.4 Historical information and evaluation:
The Ross Mine was opened by Ray Ross in 1934 and was closed in 1941. The mine was a small operation selling coal locally in Bozeman for domestic use. It has a 150-foot inclined shaft from which three levels were driven eastward on the Cokedale bed. The first and second levels extended 750 ft eastward and were mined to near the surface. The third level, which was mined last, extended 220 ft eastward (Roberts 1966).

The mining technique was room-and-pillar with no specific spacing (Roberts 1966).

5.5 References
(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.
None

Feature 1 is a coal slack dump that measures 180 ft north/south x 140 ft east/west. It is located directly in front of the mine's two entries and extends southward down the face of the mountain. The dump has two levels. The upper level has a flat area that measures about 40 x 40 ft. On top of this are located the collapsed buildings (Features 4 and 5). The second level is about 20 ft below the first and has a flat area about 30 ft north/south x 120 ft east/west. Here is where the coal was loaded. Two chutes (Features 8 and 9) ran down slope from the first level to the second level. A road was cut down the face of the mountain side so the second level could be accessed by trucks.

Feature 2 is a collapsed entry to a slope that ran down to the second and third levels of the mine. In front of the entry is a 50 ft north/south x 25 ft east/west cut into the mountain side. A few 6 inch, and less, in diameter logs are located in the cut. It was not possible to discern whether they were the remains of some structure that was at one time located at the mine entry.

Feature 3 is a collapsed entry to a slope that ran to the first and second levels in the mine. In front of the collapsed adit is a 12 x 8 ft cut into the mountain side. Over the cut is a collapsed roof made of roofing tin nailed over logs and boards. There is a 9 ft diameter by 3 ft deep depression a few feet above the closed entry. It is not known if the slope is beginning to collapse or this depression is where an entry was once located.

Feature 4 is a collapsed building made of 2 x 4, pole and slab construction with roofing tin on the roof. It is so badly deteriorated that the building's original size could not be determined accurately. It appears to have been about 12 x 12 ft in planview.

Feature 5 is a collapsed building made of boards, logs and 2 x 4s with a tin covering on the roof. It is so badly deteriorated that the exact size of the building could not be determined. It probably measured around 12 ft north/south x 10 ft east/west. The building appears to have been located in front of the mine entry at Feature 3 suggesting that it housed the hoist for pulling the coal out of the mine.

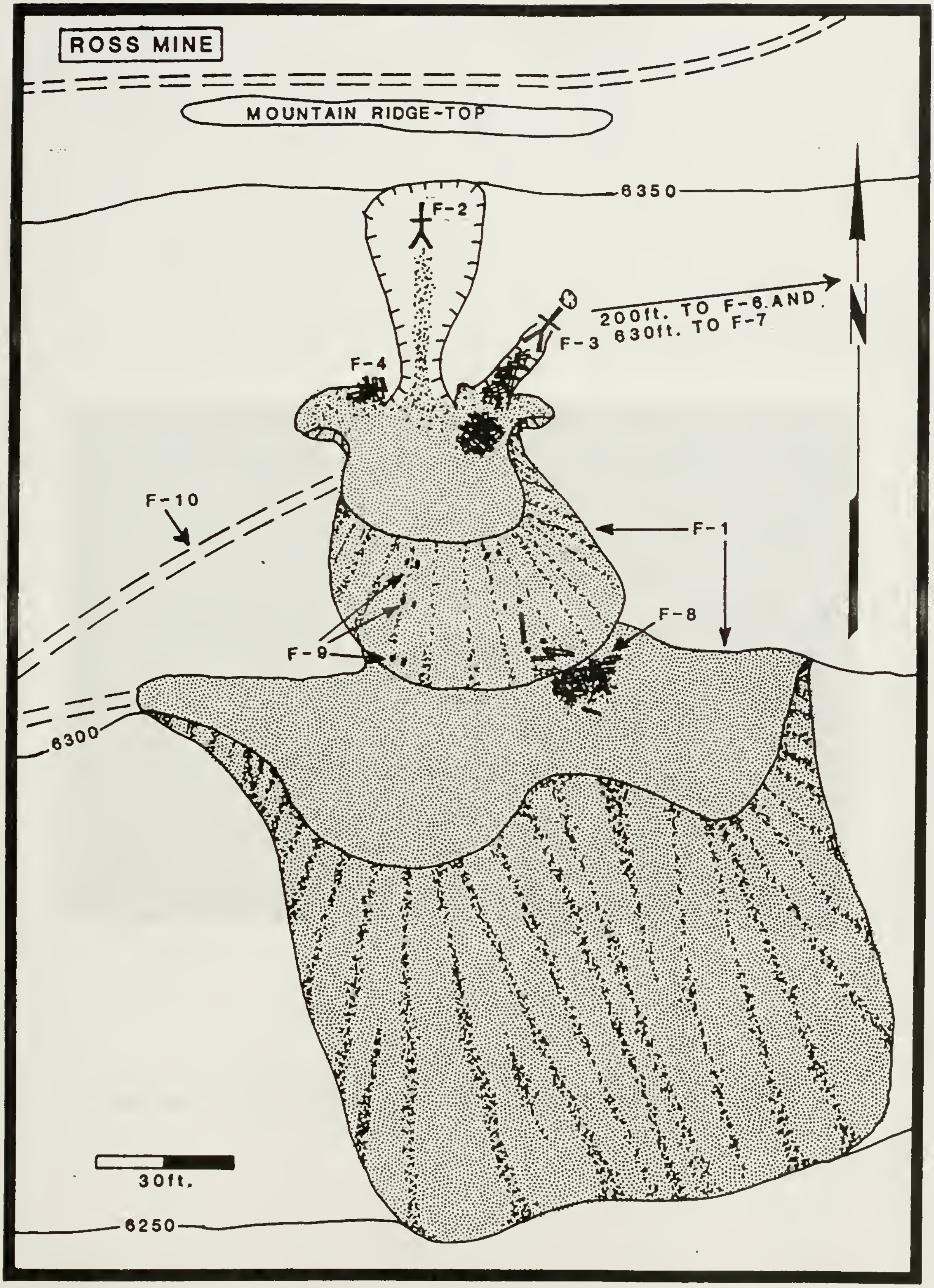
Feature 6 is a 9 ft diameter x 3 ft deep depression located about 200 ft east of mine entry Feature 3. Roberts (1966: Plate 7) map of the mine does not show any entries at this location; therefore, the depression may be the result of the underground workings beginning to subside.

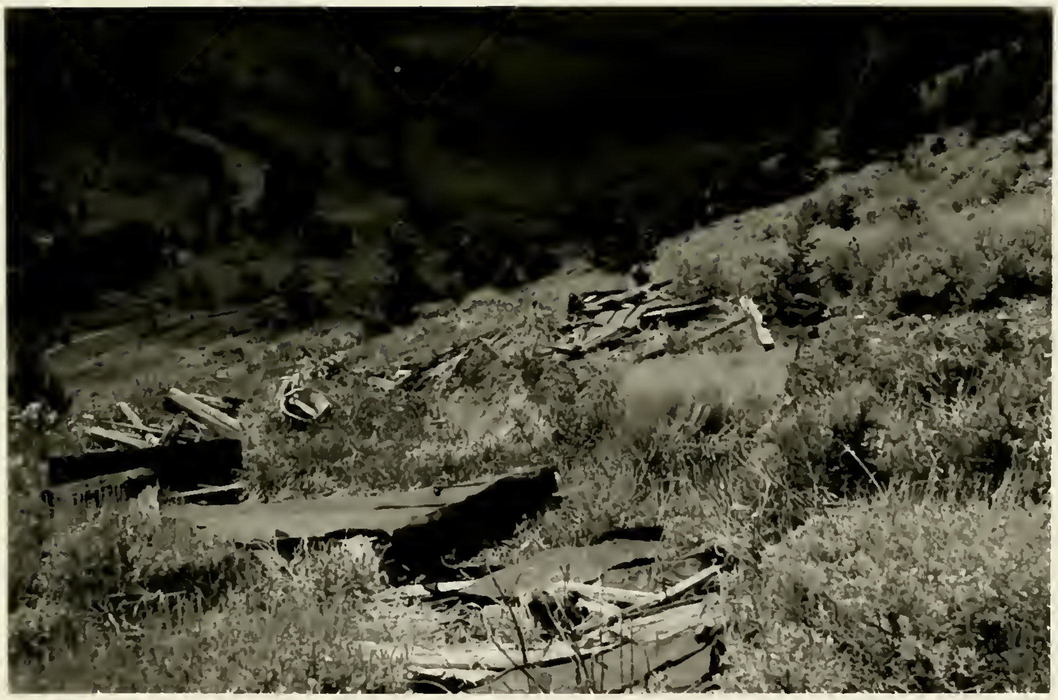
Feature 7 consists of three depressions adjacent to each other aligned along an east/west axis. The depression furthest to the west is the deepest and largest. It is 6 ft in diameter and 3 ft deep. A few deteriorated boards are located in and around the pit which indicates that it was boarded over at one time. The other two depressions are smaller being about 4 ft in diameter and 2 ft deep. Robert's (1966: Plate 7) map of the mine workings shows an entry at this location.

Feature 8 consists of the remains of a coal chute located on the face of the upper level of the coal slack dump. All that is left of the chute are a few poles and planks. Apparently, the chute was about 3 ft wide and 30 ft long.

Feature 9 is a coal chute located a few feet west of Feature 8. All that remains are the bases of a few upright posts, planks and poles. Like Feature 8 the chute was probably about 3 ft wide and 30 ft long.

Feature 10 is an abandoned road that runs up the mountain side from the road on Timberline Creek to the Woodland Mine and onto the Ross Mine. The Woodland Mine is about 800 ft west of the Ross Mine.


ROSS MINE
MOUNTAIN RIDGE-TOP
6350
F-2
200ft. TO F-6 AND
F-3 630ft. TO F-7
N
F-4
F-10
F-1
F-9
F-9
F-8
6300
30ft.
6250



Overview Of Building Remains At Ross Mine (view Southwest)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA772	1.2 Site name/field designation: Washoe Mine	1.3 County: Gallatin

1.4 Township/range:

E 1/2 NE 1/4 of Section 34
NW 1/4 of Section 35
T 2S R 7E SW 1/4 SW 1/4 SW 1/4 of Section 26
SE 1/4 SE 1/4 SE 1/4 of Section 27

1.5 UTM: Zone 12

Easting	Northing
512700	5051800
512400	5052500
512900	5052500
513400	5052000

1.6 Site type: Historic mine	1.7 Recording status & comments: Recorded, mapped and photographed

1.8 Administrative/surface ownership:

Meadow Creek Partnership
Jerry Burkhart
Boulder, Colorado

1.9 Mineral ownership:

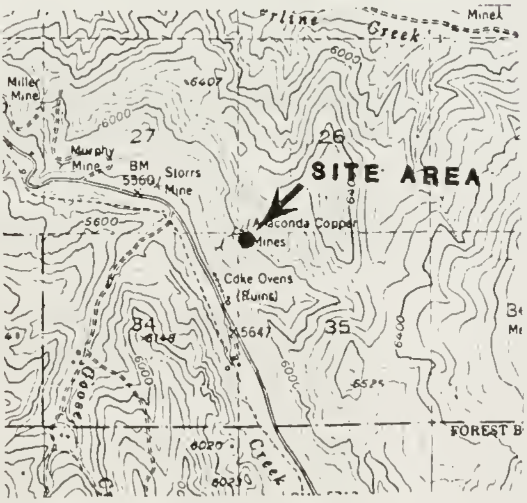
1.10 Project name:
Department of State Lands
Abandoned Mines Reclamation Program

1.11 General narrative description of site:
The Washoe Mine was built as a model mine and community by the Anaconda Copper Mining Company. It was planned to mine and process coal for coke to be used in the smelters, however, the coal was not coking quality and the enterprise was relatively short-lived. Today, the site consists of six collapsed mine entries, coal slack dumps, building remains, two small buildings and coke ovens. A prehistoric site (24GA783) is located in the SW corner of the mine area.

1.12 Map reference:
Bozeman Pass Quad. 1951 USGS 15 minute series

1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:
About 9 miles east of Bozeman, MT on I-90 turn off at Trail Creek Road and go about 3-1/2 miles up Trail Creek road. You can see the coke ovens on the east side of the road.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA772

2.1 Geographic setting:

2.2 Elevation: 1706 m 5600 to ft.
1890 6200

General: The site is in the eastern edge of the Rocky Mountains.
Local: The western portion of the site is on a sloping terrace above Meadow Creek which flows through a steep sided valley that is 1/4 mile in width. The eastern portion of the site is on the face of a mountain ridge that is 1000 ft higher than the valley.

2.3 View/aspect:
View is up and down Meadow Creek for about a mile in each direction.

2.4 Major drainage:
Meadow Creek 200 yards to the west

2.5 Minor drainage(s):
Unnamed creek along the south edge of site that runs into Meadow Creek

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Meadow Creek	100 yds. west	80 ft	creek year around
b.	unnamed creek	adjacent and south of site	flows through site	spring year around

2.7 Regional vegetation:
Transition zone between lodgepole pine - Douglas fir forest and foothill grassland (Payne 1973)

2.8 Local vegetation:
wheatgrass, fescues, sagebrush, chokecherry, willow, cottonwood, aspen, hawthorne, pine and fir

2.9 Soils:
loam with some rocks scattered in the soil

2.10 Surface visibility/season of survey:
Poor in the lower areas of the site due to vegetation; good on the steep side hills/May.

2.11 Other environmental factors pertaining to site location:
The site is in the Meadow Creek coal district of the Livingston coal field. There are several abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA772

3.1 Condition of site:
Much of the site has been destroyed with the removal or destruction of buildings and other structures. The two buildings that are still standing are badly deteriorated. The coke ovens are in a deteriorated state with collapsed roofs.

3.2 Site significance (NRHP):

See attached.

3.3 Impacts:
The Department of State Lands plans to stabilize and/or backfill the adits and subsidence area resulting from mining activities; cover the coal slack dumps and revegetate them; and remove the foundations and buildings north of the coke ovens.

3.4 Recommendations:
The foundation where the washing facility was located should not be destroyed. The masonary skills demonstrated at these foundations are representative of a period before the introduction of concrete and rebar.

3.5 Site located by: Tom Jerde and Jim Duran Date: May 15, 1987	3.6 Site recorded by: Tom Jerde, Jim Duran and Gene Munson Date: May 15, 1987	3.7 Revisions by: Date:

3.8 Permit No.:
NA

3.9 Publications concerning site:
Munson, Gene 1987 A Cultural Resource Inventory of Selected Coal Mines in the Gallatin County Portion of the Livingston Coal Field, Montana. For the Montana Department of State Lands. GCM Services, SInc., Butte.
(See attached.)

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
B/W and color slides - GCM, Butte, MT - See photo list		

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24GA772

5.1 Site dimensions, how determined:
The site measures 520 m north/south x 1150 m east/west. This is the area in which the features are located.

500,000 m^2

5.2 Features:

See attached.

5.3 Artifacts (observed, collected):

Tin cans, glass, metal, bricks, round nails, wood and electrical insulators of different types.

5.4 Historical information and evaluation:

See attached.

5.5 References

(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.

None

Calvert, W.R.
1912 The Livingston and Trail Creek Coal Fields, Park, Gallatin and Sweetgrass Counties, Montana: U.S. Geological Survey Bulletin 471. U.S. Government Printing Office, Washington, D. C.

Montana Inspector of Mines
1905-1910 Annual report of the Inspector of Mines of the State of Montana.

Parson, F.W.
1907 The operation of coal mines in Montana. Engineering and Mining Journal V. 84 pt. 2 No. 14:1071-1071.

Payne, Gene F.
1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E.
1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D. C.

Rowe, Jesse Perry Rowe
1905 The Montana Coal Fields - their commercial value. Mining Magazine vol. 11:241-250.

1906 Montana coal and lignite deposits. University of Montana Bulletin No. 37. Geological Series No. 2, 82 p.

Van Aken, V. V.
1984 Turkey Trail Railroad of Park and Gallatin Counties. In History of Park County, Montana. Taylor Publishing Company, Dallas.

Whithorn, Bill and Doris Whithorn
n.d. Photo History of Livingston - Bozeman Coal Country: Cokedale, Timberline, Chestnut, Storrs, Hoffman, Maxey Lived on Coal. Livingston Enterprise Publisher p. 48.

Very little remains of what was at one time a rather large and complex coal mining facility. The Washoe Mine, facilities and associated community of Storrs was planned as a model complex by the Amalgamated Copper Company (to become the Anaconda Copper Mining Company in 1910). Coke was needed for the smelters and it was thought that the coal at the Washoe Mine would produce this needed resource. Although large amounts of money and effort were spent in mining coal no coal of coking quality was ever recovered. The industrial development was begun in 1902 and in 1910 the buildings in the town of Storrs were auctioned off or burned. Although coal was mined before the ACM efforts and afterward this was the primary development of the Washoe Mine.

The only standing buildings very likely date from the period after mining occurred at the site and they are in deteriorated condition. The only other standing structures are the coke ovens and they also are in a deteriorated condition. For these reasons, the site's integrity is substantially impaired. Yet, the site is considered significant under Criterion C. The coke ovens and foundations for the complex that housed the washer, machine shop and engine room embody the distinctive characteristics of a type and period of construction. The intertwining of rough-cut sandstone blocks, bricks and granite in order to meet the requirements of supporting structures and/or machinery or stand up to the heat produced by the coke ovens, illustrates both the technical and aesthetic achievements of skilled stone masons. Such masonry construction was rare after the turn of the century; even the washer facilities built at the nearby Mountainside Mine around 1903 used concrete with steel rebar for the foundation and footings. The removal of the buildings at the washer, machine shop and engine room complex does not lessen the qualities of the stone work of the foundations; without the buildings the masonry work is better exposed.

Feature 1 is a coal slack dump in a small coulee located on the face of the mountain side on the north side of the site. This is the first coal slack dump produced by the Hodson Mine (see site sketch map).

Feature 2 is a coal slack dump 300 ft southwest of Feature 1 and about 200 ft below. This is from the lower Hudson Mine.

Feature 3 is a possible collapsed entry located about 300 ft northeast of Feature 1 and about 200 ft above it. Roberts (1966:Plate 5) does not show an adit at this location but there appears to be a road cut into the mountainside to what may be a collapsed adit. This would be the entry into the first Hudson Mine.

Feature 4 is a collapsed entry adjacent to and northeast of Feature 2. This is the opening to a 650 ft long tunnel driven across strike to intercept the Cokedale bed (Roberts 1966).

Feature 5 is where the coal chute from Washoe Mine No. 3 (Feature 7) was located. All that remains is a 4 ft to 8 ft wide x 700 foot long corridor of coal waste down the mountain side. There is a fair amount of coal in the lower half of this corridor but there is very little coal in the upper portion of it. It begins at Feature 24.

Feature 6 is the narrow gage track road bed that was cut along the face of the mountain from Feature 1 to Washoe Mine No. 3 (Feature 7). The road is about one-half mile long. It was used to transport coal from the mine to the chute (Feature 5).

Feature 7 is the entry for the Washoe Coal Company No. 3 Mine (Roberts 1966). It has collapsed and a small stream of water is coming from it. There are five ground subsidence holes above the entry caused by the collapsing of the adit.

Feature 8 is the coal slack dump in front of Feature 1.

Feature 9 is a dugout in the hillside located about 50 feet east of Feature 8. The dugout consists of a three ft deep depression and is 12 ft northwest/southeast x 10 ft southwest/northeast. Uncut sandstone rubble is stacked about two ft high along a part of the downhill side of the depression. A single layer of sandstone rubble is aligned on the southwest and northeast sides of the depression. A couple of deteriorated 4 inch diameter poles are located in the depression. This feature probably was nothing more than a childrens playhouse.

Feature 10 is the remains of a log cabin located about 150 ft west of Feature 8. All that is left are a few logs. The cabin measured around 12 x 12 ft.

Feature 11 is a collapsed entry located 600 ft northwest of Feature 7. This was a small prospect (Roberts 1966).

Feature 12 is the collapsed entry for the Washoe Coal Company No. 4 mine (Roberts 1966).

Feature 13 is the coal slack dump in front of Feature 12.

Feature 14 is the collapsed entry for the Washoe Coal Company No. 2 mine (Roberts 1966).

Feature 15 is a collapsed trestle that was constructed across the creek in order to haul coal from Washoe Coal Company No. 2 mine (Feature 14) to the tipple. All that remains of the trestle are a few poles lying in and along side the creek.

Feature 16 is a 30 x 30 ft leveled off place where the office for the Washoe Coal Company No. 1 mine was located (Roberts 1966: Plate 5).

Feature 17 is the collapsed entry for the Washoe Coal Company No. 1 Mine. Rowe (1906:Plate XXII) has a photograph of the entry and what looks like a horse (not a mule as reported) pulling several loaded coal cars out of the mine.

Feature 18 is a coal slack dump that apparently was from both Washoe Coal Company No. 1 and 2 Mines.

Feature 19 is a pile of slabs located on Feature 18. Since several of the slabs still have bark on them the feature appears to be of fairly recent origin. Even though this feature is near the timber yard shown by Roberts (1966: Plate 5), it is probably not associated.

Feature 20 is a privy. The wood frame structure measures 4.5 ft north/south x 5 ft east/west. The door opens to the east. The toilet seat has two holes. It is located on Feature 18 and is probably contemporaneous with the slab pile (Feature 19).

Feature 21 is the road bed for the narrow gauge track that ran from Washoe Coal Company Mines No. 1 and 2 to the tipple. This road bed has recently been regraded.

Feature 22 is an abandoned road that ascends the face of the mountain to Feature 2. It is about 900 ft in length. It cuts through the road bed of Feature 21 suggesting it post-dates that feature or minimally was improved after Feature 21 was abandoned.

Feature 23 is a road that ascends the face of the mountain to Feature 1 and connects with the road bed of Feature 6. It probably predates Feature 6 and was originally made to access the Hodson Mine.

Feature 24 is a thin layer of coal waste scattered over a 60 ft north/south x 30 ft area. It has been cut by improvements made on the road bed of Feature 21. This is the location shown as the bunker on Plate 5 (Roberts 1966). The coal chute (Feature 5) terminated at this feature.

Feature 25 is a 60 ft northwest/southeast x 45 ft northeast/southwest leveled off area on the hillside. Part of a brick wall is located on the south end of the feature. It is only one ft and less high. Several bricks have been recently stacked in the central area of the feature. Coal slack is scattered throughout the area. Roberts (1966: Plate 5) shows this as the location of the boilers. Rowe (1906: Plate XXIII) has a photograph of this feature.

Feature 26 consists of a 30 ft northwest/southeast x 14 ft northeast/southwest x four ft deep depression in the hillside. Roberts (1966: Plate 5) shows this as the location of the water tank for the boilers.

Feature 27 is a coal clinker pile located southwest of Feature 25. Intermixed with clinker are bricks. The pile measures 114 ft north/south x 66 ft east/west. It probably is the location where clinker from the boilers (Feature 25) and steam engine boilers at Feature 29 was dumped.

Feature 28 is a small building. Since it is on a west-sloping hillside, the east wall and part of the north and south walls are below grade. The main part of the building is made of rough cut sandstone rubble built to courses and set in mortar. It measures 15 ft north/south x 18 ft east/west. The stone walls are about 6 ft high. The shed roof is badly deteriorated. The rafters in the roof are logs and a few telephone or powerline crossarms. Rough-sawn boards cover the rafters. The roof is set in concrete where it rests on the stone walls. The concrete appears considerably more recent than the mortar used between the stones. This suggests that the roof postdates the walls. There is a doorway with fixed light windows (no glass) on each side of the door on the stone buildings facade (i.e., west side). There also is a fixed light window (no glass) on the south side. A shed roof porch with three support posts are attached to the front facade. A porcelain kitchen sink lying on the ground is located in front of the doorway. Attached to the north side of the main structure is a wood frame addition of vertical and horizontal board veneer. The partially collapsed shed roof made of boards on 2 x 4 rafters, slopes to the north while the shed roof on the main structure slopes to the east. The 12.5 ft wide addition has a doorway on the west side and an opening for a window. Inside the addition is a badly rusted wood cook stove with No. 81 embossed on the oven door. Attached to the north side of the addition is a 4 ft wide lean-to made of small poles with rough sawn wood covering. A fallen wooden fence surrounds the building.

The stone portion of the building is probably the oil house (Roberts 1966: Plate 5). The current building's roof and wood frame addition were added on at some later date. The wood cook stove and kitchen sink located at the feature suggests that it was used as a dwelling, perhaps a summer residence.

Feature 29 consists of building foundations for the washer, engine room and machine shop and the footings for the washer and engines (Roberts 1966: Plate 5). The foundations do not appear to match the planview of the buildings shown by Roberts (1966: Plate 5). This may be in part the result of a misinterpretation of the foundations found at the site. Since the building was constructed on a west sloping hillside, the north/south foundations also act as retaining walls. There are three tiers of these 90 ft long retaining walls/ foundations. In between each foundation is a leveled off area. The feature covers an area about 115 ft north/south x 90 ft east/west. The following description of the foundations begins at the lowest level (i.e., level one) which is where the machine shop was located.

The foundation for level one measures 90 ft north/south x 34 ft east/west. The portion of the foundation on the west side is adjacent to the road cut for the spurline (Feature 32). It consists of a six ft high x two ft wide wall made of partially squared sandstone rubble built to courses and set in mortar. On the south side of the foundation is a six ft wide rock walled trench. Since it is partially filled with rock debris, its exact depth could not be determined but it is at least three ft deep. No foundation was found on the north side. On the east side the foundation is 10 to 12 ft high and 2 ft wide. It is made of partially squared sandstone rubble built to courses and set in mortar. Eight ft from the north end of the foundation is a 40 inch wide opening. Dirt has filled in the bottom part of the opening but it appears to have been a doorway. Four feet from the south end is a 4-inch pipe which probably was a water main. In the area surrounded by the foundation are 12 x 12 inch timbers bolted together. They look like the beds upon which heavy machinery were set. There is a considerable amount of coal waste scattered throughout the area. Butting up against the south end of this foundation is the foundation for the engine room. This 8 ft long wall is of similar construction and height.

Level two measures 150 ft north/south x 30 ft east/west. Within this level were probably located part of the washer and part of the engine room. On the north end the foundation consists of a few sandstone blocks. The foundation on the east side is made of partially squared sandstone rubble built to courses that are set in mortar. The foundation is 2 ft wide and 5 ft high. Ninety feet from the north end the foundation jogs east for 8 ft then continues south for another 25 ft. Within this area are located the footings where the Ludwig washer and steam engines were located. These footings are rather impressive because of their construction using partially squared sandstone rubble, bricks and granite in combination with each other. Bored through these stones are holes for 1-1/8 inch anchor bolts.

Unlike the other two levels, the third level does not have any large foundation on its east side which served as a retaining wall. The only readily visible foundation on the east side is on the southern third of the level. Here single and multiple levels of partially squared sandstone blocks are located. The footings for the washer and engines extend into this level.

Feature 30 is a 4 inch water hydrant made of cast iron. The valve and spouts have been removed. It is located north of Feature 29 and probably was installed in case of a fire at the plant.

Feature 31 are uncompleted coke ovens. The 700 ft north/south x 30 ft base for the ovens is all that was completed. The base consists of a 4 ft high wall made of partially squared sandstone rubble built to courses and set in mortar. The wall surrounds a mound of earth. In the center of this rectangular base are sandstone footings placed every 12 ft. These are what remains of the support structure for the 200 ovens that were to be built. Rowe (1906: Plate XXIV) shows a portion of this feature.

Feature 32 is the railroad bed that ran from the north coke ovens (Feature 31) past the washer complex (Feature 29) and the south coke ovens (feature 33) before connecting to the Mountain House branchline. None of the rails or cross ties remain where the spur connected to the branchline and it is so badly disturbed that it is no longer recognizable.

Feature 33 consists of the southern coke ovens. This 715 ft north/south x 30 ft east/west feature contains 100 ovens. The combination of natural weathering and vandalism has caused extensive damage to the ovens. The tops of the ovens have collapsed and in many cases trees and bushes are growing through them. Even in their deteriorated state they offer an excellent glimpse into the craftsmanship that went into their construction. The ovens themselves are made of fire brick built to create a 12 ft diameter dome (i.e., "beehive"). The supporting structure for the ovens is a 9 ft to 11 ft high and 2 ft thick wall of partially squared sandstone rubble built to courses and set in mortar. This supporting structure fully enclosed all 100 ovens. Besides the outside supporting structure there are 6 ft wide footings of similar construction for the walls which are placed every 12 feet down the center of the coke ovens. The door openings for the ovens are a combination of sandstone blocks, fire bricks and regular 4 x 8 inch bricks. The integrating of these three types of masonry to form nearly perfect 30 inch wide openings took a substantial amount of skill. At the doorways, the inside wall of the outside supporting structure is carved out so that it can fit snugly against the 12 ft diameter oven dome. The height of the doorways could not be determined because of soil build-up in front of them.

Feature 34 is a 45 ft north/south x 36 ft east/west foundation for a building. It is east of the south end of the coke ovens (Feature 33). The foundation is made of sandstone blocks and is a few inches above the ground surface. This was where the barn for the mules was located (Roberts 1966: Plate 5). This structure can be seen in a photograph in Rowe (1906: Plate XXIII).

Feature 35 is a leveled off area that measures 60 ft north/south x 30 ft east/west. Roberts (1966: Plate 5) shows a boarding house at this location.

Feature 36 is a 16 ft north/south x 18 ft east/west x 3 ft deep depression located west of the barn. There may have been a building at this location at one time but neither the photographs or the map of the site show any structure at this location (Roberts 1966: Plate 5; Rowe 1906; Whithorn and Whithorn n.d.).

Feature 37 consists of the remains of a log cabin made of 6 inch logs. It is immediately south of where the boarding house (Feature 35) was located. The ends of the logs are sawn and are flat-notched. The roof which is on the ground and badly deteriorated, appears to have been gabled. The cabin rests on fire bricks that, most likely, were removed from the coke ovens (Feature 33).

The spaces between the logs are chinked with quarter round poles and daubed with mortar. A set of bedsprings is located in the building. The feature probably post-dates the mining activities at the site.

Feature 38 is a coal slack dump located west of the washing plant (Feature 29). It covers several acres on the west side of the road.

The first mine at the Washoe site was the Hodson Mine which was opened by Enoch Hodson in 1883. Production was small with the coal being sold locally. The mine was worked intermittently with less than 12 miners employed (Roberts 1966).

The first entry for the Hodson Mine was an inclined shaft into the 3 ft thick (excluding a 12-inch parting) Cokedale coal bed which dips 35° north/east in this area. In 1888 a second entry was driven 650 ft in order to intercept the Cokedale bed 350 ft below the first entry. The mine adit followed the Cokedale bed 900 ft to the northwest with rooms opened above the drift. No mining occurred to the south since a fault cuts across the coal seam in that direction (Roberts 1966).

The Washoe Coal Company acquired the property in 1902, although the company did not continue development of the mine. Calvert's (1912) report on the Livingston and Trail Creek coal field incorrectly called the Hodson Mine the Washoe Mine No. 1. When Calvert visited the mine in 1908 it was being leased by J. D. Evans who had just finished putting the mine in operating condition and was about to begin shipping coal. The mine was probably closed down in 1910. Production for 1909 was 6950 tons and for 1910 was 6073 tons. There were nine miners (Montana Inspector of Mines 1910).

In 1902 the Washoe Coal Company, a subsidary of Amalgamated Copper Company (in 1910 Amalgamated's vast holdings became part of Anaconda Copper Company), began development of the property adjacent to the Hodson Mine. The location for Amalgamated Copper Company's model coal mine, plant facilities and town was found by a Northern Pacific Railway Company field party under the direction of L.S. Storrs in 1901. The purpose of this development was to obtain coal of sufficient quality for coking. The coke was needed for smelters in Anaconda and Great Falls. It was hauled to the Northern Pacific main line at Chestnut on a line leased by the Northern Pacific Railroad. The Northern Pacific Railroad called it the Mountain House branch since it ran to Mountain House on Trail Creek. Otherwise, this 11-mile long railroad was called the Turkey Trail Railroad. It was built by Charles W. Hoffman in 1898 (Roberts 1966; Rowe 1906; Whithorn and Whithorn n.d.; Van Aken 1984).

Development of the mine included the construction of a large Luhrig washing plant, a steam powered electric plant, a reservoir on Goose Creek, the town of Storrs and coke ovens. The reservoir was necessary in order to obtain a reliable source of water for washing the coal. The original plan called for 200 coke ovens; 100 ovens south of the washing plant and 100 ovens north of the washing plant but only the ovens to the south were completed. Other facilities included a machine shop, blacksmith shop, barn for the mules (used to haul the coal to the tipple from the mines), barn boss residence, boarding house and mine foreman residence. The town of Storrs, which is about 1/4-mile north of the site, was plated out to include not only residences but also a public school, firehall, butcher shop, general merchandise store, hotel and hospital (Roberts 1966; Rowe 1905; Montana Inspector of Mines 1905-1906; and Whithorn and Whithorn n.d.).

Four mines were opened up by the Washoe Coal Company. The majority of the develoment was on the Paddy Miles and Storrs No. 3 coal beds. The beds are located in a tightly folded syncline with dips from 35 to 45 degrees. The heating and compressive forces which resulted from this folding made the coking quality coal. Unfortunately, this folding also introduced a considerable amount of clastic material; some of which could neither be hand-picked out or washed away in the washing plant; therefore, much of the coal was useless for coking (Roberts 1966).

The entry for Mine No. 1 is located about 100 ft above the Meadow Creek valley floor. This is slightly higher than the washing plant located about 1/4-mile to the northwest. Mules pulled coal cars from the mine to the tipple at the washer. The underground workings extended some 500 ft to the north and 800 ft to the south from the 600 ft long mine adit (Roberts 1966; Rowe 1905).

The entry for Mine No. 2 is located about 300 ft west of Mine no. 1 and is at a similar elevation. It was a small mine with a 500 ft long adit trended to the southwest with the room and pillar mining taking place on the upslope side (Roberts 1966).

Mine No. 3 was the biggest producer of the four mines. The entry was about 500 ft above the washing facilities and over 1/2-mile to the south. Mules pulled coal cars on a narrow-gage track from the mine entry along the face of the mountain to a location above the tipple and washer. Here the coal was weighed at the scale house and sent down an 800 ft long chute to a bunker. From the bunker the coal was hauled about 500 ft north to the tipple. After being washed it was hauled to the coke ovens located 400 ft to the south. Only about 50 of the ovens nearest the washers were used (Roberts 1966; Rowe 1905).

The underground workings at Mine No. 3 extend 3600 ft north of the mine's portal. The majority of the coal was mined out of the Storrs No. 3 bed located within the first 1000 ft of the entry. About 1200 ft from the entry a crosscut was made into the Paddy Miles and Cokedale beds. Unfortunately, these beds did not contain sufficient quantities of coking quality coal for development (Roberts 1966).

The entry for Mine No. 4 is about 250 ft below Mine No. 3 and 400 ft to the east. This horizontal drift was driven 860 ft northward on the Big Dirty Bed. Here the bed lived up to its name and none of its 10 to 25 ft thick seam yielded coal of commercial value (Roberts 1966).

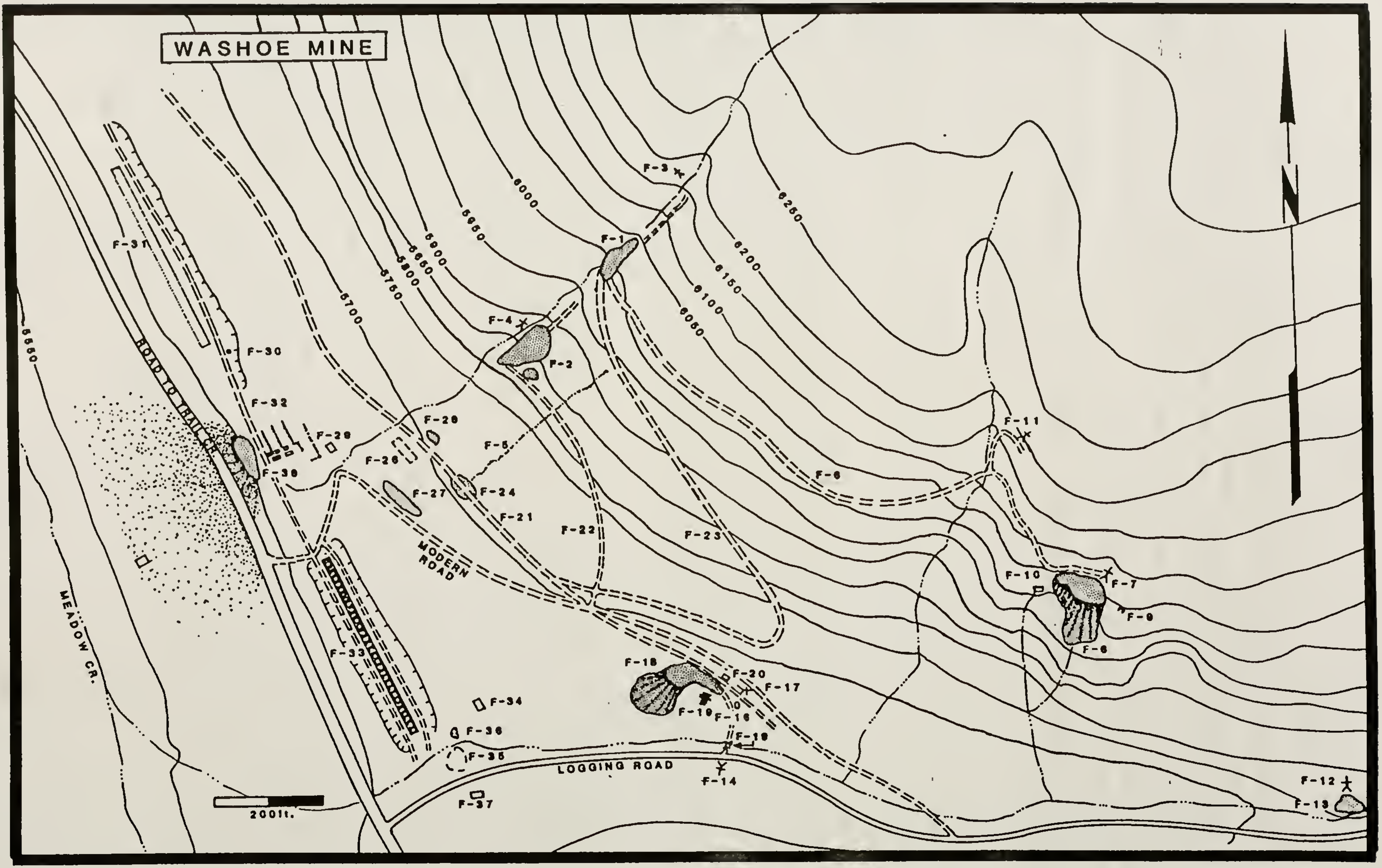
Rowe (1906) considered the mine as one of the most modern and up-to-date in the United States. In 1903 it employed between 100 and 200 men. Due to labor trouble in 1905 and extreme faulting of the coal seam only 500 tons of coal were mined. There were 10 miners and six outside workers (Rowe 1905; Montana Inspector of Mines 1905). In 1907, after spending about $700,000 in opening and equipping the mine, the Washoe Coal Company shut down the operation. That year it was worked for 90 days and produced 14,978 tons of coal. There were 43 miners, five inside men, and 50 outside men. Sufficient tonnage of clear coking coal was never found (Parson 1907).

5.4 Historical information and evaluation: (continued) 24GA772

In 1910 the houses and stores at the town of Storrs were auctioned off and the washer and adjacent buildings were burned (Whithorn and Whithorn n.d.).

The mine sat idle until 1915 when the Maxey Brothers took it over. Under the name of Chestnut Hill Coal Company, they mined a small amount of coal for domestic trade in Bozeman (Roberts 1966).

In 1921 the mine was leased by W.D. Gibson, but he never reopened it (Roberts 1966).


WASHOE MINE
N
6250
6200
6150
6100
6050
6000
5950
5900
5850
5800
5750
5700
5550
F-1
F-2
F-3
F-4
F-5
F-6
F-7
F-8
F-9
F-10
F-11
F-12
F-13
F-14
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F-27
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F-34
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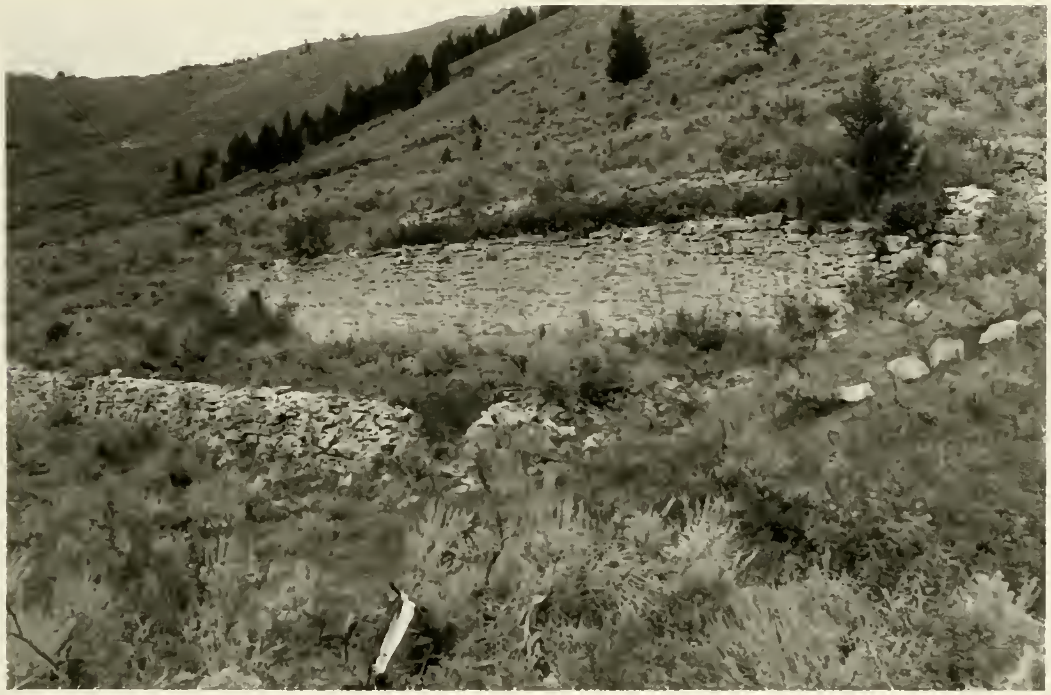
F-36
F-37
F-38
MODERN ROAD
LOGGING ROAD
ROAD TO TRAIL CR.
MEADOW CR.
200ft.



Washing facility foundations at Washoe Mine (view northeast).

Coking ovens at Washoe Mine (view north).

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA773

1.2 Site name/field designation: Mountainside Mine

1.3 County: Gallatin

1.4 Township/range:

T 2S R 7E 1/4 E 1/2 SW 1/4 of Section 21

1.5 UTM:

Zone 12 5010200 Easting 5054500 Northing

1.6 Site type: Historic coal mine

1.7 Recording status & comments: Photographed, mapped and recorded

1.8 Administrative/surface ownership:

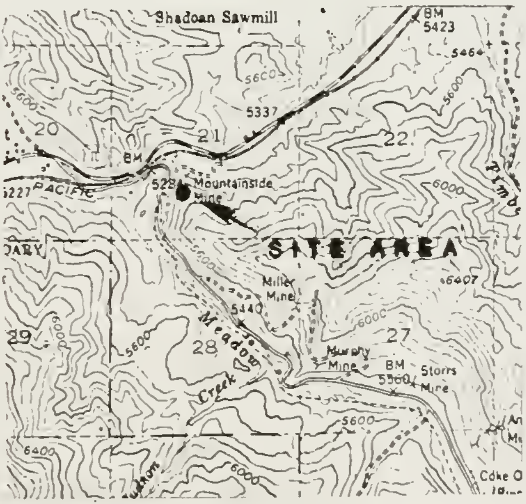
Larry and Darlene Willard
Bozeman, MT
(live at mine site)

1.9 Mineral ownership: private

1.10 Project name: Department of State Lands Abandoned Mines Reclamation Program

1.11 General narrative description of site:
The site consists of five collapsed mine entries, eight coal slack dumps, two building foundations, two water ditches and a small sandstone quarry. The abandoned Turkey Trail railroad line and the original road to Timberline Creek passes through the site. There are no standing structures. The site was a large industrial coal mine which operated for nearly 30 years from the 1880s to 1910.

1.12 Map reference:
Bozeman Pass Quad. USGS 15 min. series (1951)



1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:
Drive east from Bozeman on Highway 10 for about 10 miles. Turn off on Trail Creek road exit and go about 3/4 mile up the Trail Creek road. Here the mine is on the east side of the road.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA773

2.1 Geographic setting:	2.2 Elevation: 1631- m 5350- ft. 1692 5550

General: The site is on the eastern edge of the Rocky Mountains.
Local: The site is at the junction of two narrow mountain ravines; one ravine runs north/south (Meadow Creek) and the other runs east/west (Rocky Creek). It extends up the north face of a mountain ridge.

2.3 View/aspect:
The only view is to the east up Rocky Creek. This is for less than one mile.

2.4 Major drainage: Rocky Creek	2.5 Minor drainage(s): Meadow Creek

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Meadow Creek	50 m west	10 m	perennial
b.	Rocky Creek	50 m north	3 m	perennial

2.7 Regional vegetation:
lodgepole pine - Douglas fir forest (Payne 1973)

2.8 Local vegetation:
lodgepole pine, Douglas fir, pine reedgrass, grouse whortleberry, sagebrush, grasses, aspen, wild rose and willow

2.9 Soils:
loamy to sandy and gravelly (there is mostly coal slack in the lower area of the site)

2.10 Surface visibility/season of survey:
good/May 1987

2.11 Other environmental factors pertaining to site location:
The site is in the Meadow Creek coal mining district of the Livingston coal field. There are several abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA773

3.1 Condition of site:
There are no standing structures at the site. It is in a state of ruins.

3.2 Site significance (NRHP):
The site was part of the Chestnut Mine complex. It was a large operation that played an important role in the development of the Bozeman and Livingston communities. Coal from the mine helped fuel the locomotives that brought the rush of people from the east to settle in Montana at the turn of this century. However, the site's integrity has been substantially disturbed by the removal of the structures. It is not recommended as eligible for listing on the NRHP.

3.3 Impacts:
The Department of State Lands plans to cover and revegatate coal slack dumps, backfill the adits and shafts and remove footings and foundations.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Tom Jerde and Jim Duran Date: May 14, 1987	3.6 Site recorded by: Tom Jerde and Jim Duran Date: May 14, 1987	3.7 Revisions by: Date:

3.8 Permit No.: NA

3.9 Publications concerning site:
See attached.

3.10 Artifact repository: None collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
5	overview	E
6	railroad bed (F-5)	S
7	washer foundation (F-4)	NE
8	overview	NE
9	bridge (F-6)	SE
10	posts (F-7)	N
11	washer foundation (F-4)	S
12	footings at F-9	NE
13	footings at F-9	E
14	footings at F-9	SE
15	overview	NE
18 and 19	concrete watergate at F-12	N

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24GA773

5.1 Site dimensions, how determined:
The site measures 550 m north/south x 365 m east/west. This is the area in which the features are located.

55,000 m^2

5.2 Features:
See attached.

5.3 Artifacts (observed, collected):
There are a few metal bars, rods, bolts, pieces of cable, nails and glass scattered through out the lower part of the site. In the upper area there is a piece of rail for coal cars, metal and bolts.

5.4 Historical information and evaluation:

See attached.

5.5 References

(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.

None

3.9 Publications concerning site: (continued) 24GA773

Calvert, W.R.
1912 The Livingston and Trail Creek Coal Fields, Park, Gallatin and Sweetgrass Counties, Montana: *U.S. Geological Survey Bulletin* 471. U.S. Government Printing Office, Washington, D. C.

Maxey, Opal Grisby
1984 Maxey Mine on Trail Creek. In *History of Park County, Montana*. Park County Historical Society. Taylor Publishing Co., Dallas.

Montana Inspector of Mines
1904-1910 *Annual report of the Inspector of Mines of the State of Montana*.

Munson, Gene
1987 *A Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County portion of the Livingston Coal Field, Montana*. For the Montana Department of State Lands. GCM Services, Inc., Butte.

Park County Historical Society
1984 *History of Park County, Montana* 1984. Taylor Publishing Company. Dallas.

Payne, Gene F. 1973 *Vegetative Rangeland Types in Montana*. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E.
1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. *United States Geologic Survey Professional Papers 526-A*. United States Printing Office, Washington, D. C.

Rowe, Jesse Perry Rowe
1905 The Montana Coal Fields - their commercial value. *Mining Magazine* vol. 11:241-250.

1906 Montana coal and lignite deposits. *University of Montana Bulletin* No. 37. Geological Series No. 2, 82 p.

Van Aken, V. V.
1984 Turkey Trail railroad of Park and Gallatin Counites. In *History of Park County, Montana*. Park County Historical Society. Taylor Publishing Co., Dallas.

Whithorn, Bill and Doris Whithorn
n.d. *Photo History of Livingston - Bozeman Coal Country: Cokedale, Timberline, Chestnut, Storrs, Hoffman, Maxey Lived on Coal*. Livingston Enterprise Publisher.

Feature 1 is a large coal slack dump located at the north end of the site.

Feature 2 is a small pond of water partially filled with coal slack. It was not possible to determine if the pond was associated with the mining activities at the site.

Feature 3 is a long, narrow coal slack dump with a ditch running lengthwise through it.

Feature 4 consists of the concrete foundation and footings for the washer facility (Roberts 1966: Plate 8; Whithorn and Whithorn n.d.). The building was constructed so a train track running east/west could run through it. For this reason there is a 10 ft wide break in the foundation on the east and west ends. The outside dimensions of the foundation are 51 ft north/south x 103 ft east/west. Within the foundation are two footings that run on each side of where the tracks were located. There are also several footings for the washer and related equipment within the foundation. The foundation and footings are 2.5 ft to 3 ft above the ground. Wood posts abut the southwest corner of the foundation which is probably the remains of the tipple footings.

Feature 5 is part of an abandoned railroad line which connected to the Northern Pacific Railroad main line. The line ran south for 15 miles to the mines at Chimney Rock and at various times has been called the Turkey Trail Railroad, Northern Pacific Mountain House branchline, and Yellowstone Park Railroad. It was originally called the Turkey Trail Railroad since Meadow Creek at one time was known as Turkey Creek. The railroad was built by Charles W. Hoffman who in 1895, cancelled his mine leases with the Northern Pacific Railroad at Timberline Creek and moved his operations over to Trail Creek. He purchased the Mountain House Mine from Sloan, Ferguson and McIntyre and needed a rail line from the mine to the Northern Pacific Railroad's mainline. In 1898 he contracted with A. B. Cook to build the branch line and obtained financing from Col. W.D. Turner. However, Hoffman was unable to pay off the loan so Cook ended up with the railroad. Cook extended it four more miles to Chimney Rock where he had recently purchased the Maxey Brother Mines. The Northern Pacific Railroad provided an engine, cars and crew to haul the coal.

Amalgamated Copper Company began development of the Washoe Mine in 1902. Northern Pacific leased the line to haul the coke and coal from the mine and called it the Mountain House branch.

In 1903 Daniel Maxey reacquired the Maxey Brothers Mines through foreclosure and Col. W. D. Turner got back the Turkey Trail Railroad. Maxey purchased two Porter saddle-back engines to pull the coal cars. After Turner passed away Charles Garnier and Wilfred Johnson purchased the railroad bed and track, speculating they could sell it to the Milwaukee Railroad for the planned railroad from Three Forks, Montana to Yellowstone Park via Trail Creek. They renamed it the Yellowstone Railroad but when the Milwaukee Railroad's plans did not materialize, Garnier and Johnson tore up the track in 1918 and sold it for scrap. The Maxey family was left with engines but no railroad to run them upon (Van Aken 1984; Roberts 1966; Whithorn and Whithorn n.d.; Maxey 1984).

The portion of the road bed that passes through the Mountainside Mine site consists of a few ties. It has been badly disturbed by the creek and recent road work.

Feature 6 is a bridge that crosses Meadow Creek. The bridge has a metal deck with a log foundation. There is a truss arch made of logs on each side of the bridge. The construction is such that the truss is more for decoration and light duty guardrail than actual support for the bridge. The bridge is 40 ft long and 9 ft wide. It appears to be of fairly recent construction. Possibly, the bridge was installed when the Montana Highway Department used the coal slack from the Mountainside Mine for sanding the highway in the winter (Whithorn and Whithorn n.d.).

Feature 7 consists of seven large posts that are aligned more or less into two rows about 15 ft long. The feature is adjacent to Meadow Creek and may have been footings for a bridge.

Feature 8 is a coal slack area that has recently been used by loggers as a slash burning area.

Feature 9 are footings and a building foundation made of concrete. The irregular-shaped foundation measures about 48 ft east/west x 20 ft north/south. The foundation and footings are 1 ft to 3 ft above the ground and 2 ft to 5 ft in width.

Feature 10 is a collapsed mine entry. The subsidence at the entry suggests it is vertical or nearly vertical. Based on the map of the mine in Roberts (1966: Plate 8) the feature is the entry to the slope at the Maxey Mine.

Feature 11 is an 8 ft diameter depression marking a mine entry. It is located about 80 ft south of the washer facility (Feature 4). A photograph in Whithorn and Whithorn (n.d.:22) shows a vertical shaft with a two-man windlass over it in the area where Feature 11 is located. The description under the photograph states that this entry was a short-cut used to raise men, tools, etc., to the surface.

Feature 12 is a watergate and a ditch that runs down the mountain side. The 6 ft x 8 ft gate is made of concrete with steel rebar reinforcing. The name John Baellin is written in the concrete. The ditch is about 3 ft wide and 2 ft deep. In places it is lined with stone retaining walls. The relationship of the ditch and the mine was not determined.

Feature 13 is a ditch that runs parallel to Feature 12. A 10 ft long x 4 ft wide concrete slab is adjacent to the watergate in Feature 12.

Feature 14 is a collapsed adit entry which is almost obscured by vegetation. It is located on the mountain side immediately east of Meadow Creek. This may be the entry to the southern most workings.

Feature 15 is a coal slack dump located in front of Feature 14.

Feature 16 is a collapsed adit entry located west of and downslope from the entry at Feature 14. The coal spoil dump (Feature 17) located in front of the feature is fairly small. This adit may have been a prospect.

Feature 17 is a coal slack dump located in front of Feature 16.

Feature 18 is an adit entry north of the entry at Feature 16. The adit has partially collapsed leaving one linear and two relative small circular depressions in the mountain side.

Feature 19 is a coal spoil dump located in front of the entry at Feature 18.

Feature 20 is the original Timberline Creek road. The portion within the site area is over grown with vegetation.

Feature 21 is a small quarry for sandstone. The quarry is dug into the sandstone outcrop near the base of the mountain. The rock walls built as part of the ditch system on the site (Features 12 and 13) may have come from this quarry.

Feature 22 is an alignment of three small coal slack dumps located east of Feature 21.

The first mine at the site was opened by Daniel Maxey in 1881. The Maxey Mine consisted of a horizontal drift driven southward to intercept the Cokedale bed which dipped 23° to 60° to the northeast and was from 4 ft to 20 ft thick. Coal from the mine was sold for domestic use in Bozeman. In 1883 the mine produced 236 tons and in 1884 it produced 394 tons. In 1884 the mine was purchased by the Utah and Northern Railroad Co., a subsidiary of the Union Pacific Railroad Co. They shut down the mine in 1885 and experimented with the coal's coking ability. The railroad was shipping large quantities of coke from Utah to the copper smelters in Butte and was looking for a closer source. The results of the experiments were disappointing and the railroad did not continue operations at the mine (Roberts 1966).

The Mountainside Coal Company in the late 1880s leased the mine from the Union Pacific Railroad Company. Under the direction of M.J. Johnson, a new horizontal drift adjacent to the Maxey Mine entry was driven into the Cokedale bed. The drift trended southward and by 1900 the 70 men employed at the mine had driven it 1800 ft into the mountainside. An additional 12,000 ft were added to the drift the following year with areas to be mined blocked out for room and pillar mining. A 12 ft diameter fan provided air to the mine. The coal was sold locally (Roberts 1966 and Montana Inspector of Mines 1904).

Across the creek from what was now called the Mountainside Mine [not the Maxey], the Northwest Improvement Company, a subsidiary of Northern Pacific Railway Company, was operating the Chestnut Mine (i.e., Rocky Canyon Mine). In the early 1900s the Chestnut Mine was referred to as the oldest coal mine in Montana having begun operation in 1867 (Rowe 1906; Montana Inspector of Mines 1910; Calvert 1912). In 1902 the Northwest Improvement Company purchased the Mountainside Mine for coal to fuel their locomotives since the Northern Pacific Railway's mainline was adjacent to the site. In 1903 a horizontal drift was dug connecting the workings of the Chestnut and Mountainside. During the same year an inclined shaft was driven to a depth of 500 ft (Montana Inspector of Mines 1904; Roberts 1966).

A new and up-to-date tipple was erected with a washer of 600-tons daily capacity and hand picking tables for removing the waste. By 1907 there were four hoisting engines (Rowe 1908).

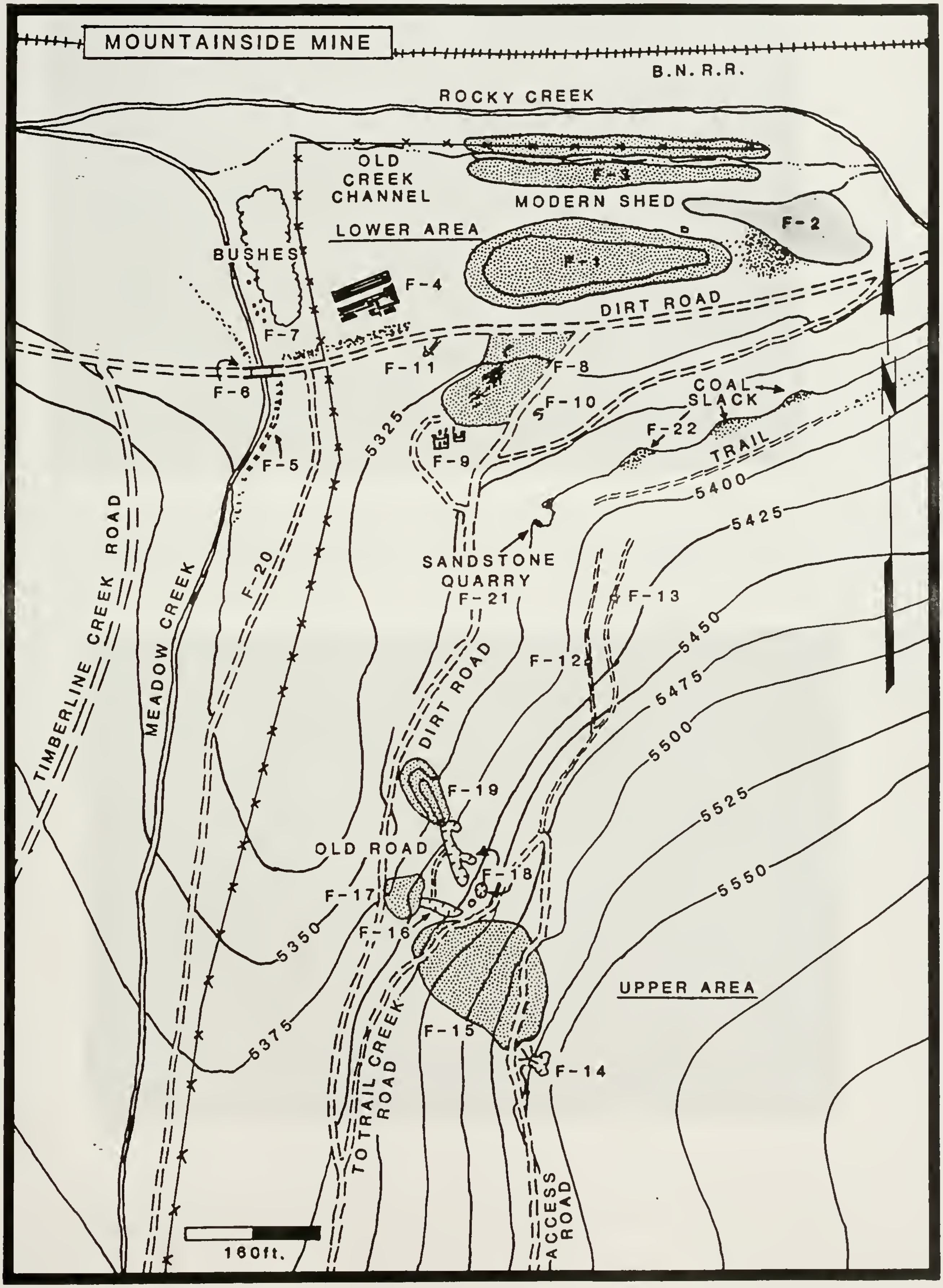
All mining was done by hand and, for the most part, explosives were not needed to loosen the coal. Mining was done on the room -and-pillar method. After the loosened coal partially filled the lower part of a room it was loaded into the cars. Mules then hauled the coal cars from side entries to where a steam powered cable hoist lifted them out of the mine. Water in the lower workings was removed by two electric pumps that ran continuously. Because of gas in the lower workings the Davey and Clancy safety lamp was used in these areas (Rowe 1908; State Mine Inspector 1909-1910).

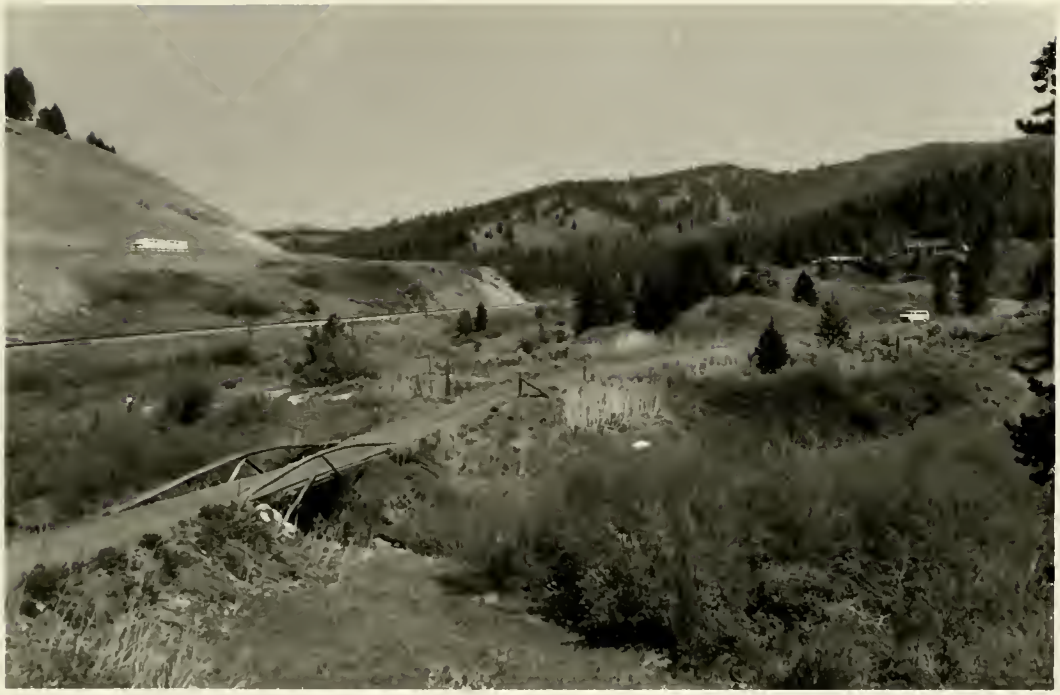
After the Northwest Improvement Company purchased the mine in 1902 and until the closure of the Chestnut Mine in 1907 statistics on the production and number of men employed at both mines were combined in the Montana Inspector of Mine reports. During the years from 1903 to 1908 both mines had annual productions from 43,000 to 124,000 tons and employed 126 to around 200 men. The Mountainside Mine in 1908 produced 29,191 tons with 174 men employed; in 1909 it produced 8,117 tons with 17 men employed; and in 1910 it produced 15,672 with 32 men employed (Montana Inspector of Mines 1909 and 1910).

When Calvert (1912) visited the mine in 1908 the mine was shut down. He considered the coal as being peculiar in appearance since it was dull and granular with lamellae of shiny vitreous coal running through it. At this time practically all the coal from the old workings had been removed and development was confined to the lower workings.

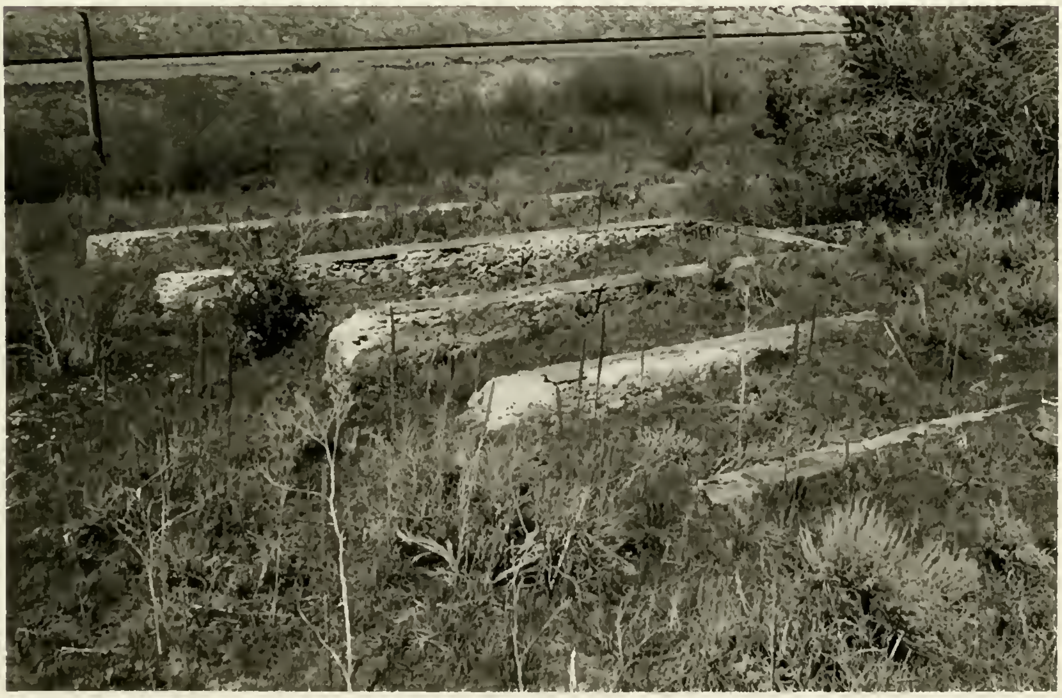
The mine was closed in 1910. The State Inspector Report of 1911-1912 reported that the track, pumps, etc., had been pulled out and the washery was scheduled to be torn down and removed in the near future.

The map of the underground workings in Roberts (1966: Plate 8) shows that the mine had two main entries; one near Rocky Creek and one up the mountainside immediately east of Meadow Creek. Immediately south of the latter entry, are two prospects.


MOUNTAINSIDE MINE
B.N.R.R.
ROCKY CREEK
OLD CREEK CHANNEL
MODERN SHED
F-3
F-2
LOWER AREA
BUSHES
F-1
F-4
F-7
DIRT ROAD
F-11
F-8
F-6
COAL SLACK
F-10
F-22
TRAIL
F-5
5325
F-9
5400
5425
SANDSTONE QUARRY
F-21
F-13
TIMBERLINE CREEK ROAD
MEADOW CREEK
F-20
F-12
5450
5475
DIRT ROAD
5500
F-19
5525
OLD ROAD
F-18
5550
F-17
F-16
5350
UPPER AREA
F-15
TO TRAIL CREEK ROAD
5375
F-14
ACCESS ROAD
160ft.



Overview of the lower portion of the Mountainside Mine (view east).



Concrete foundation for the washer facility at the Mountainside Mine (view northeast).

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA774	1.2 Site name/field designation: Meadow Creek Mine Complex	1.3 County: Gallatin

1.4 Township/range:

		W 1/2	SW 1/4	NW 1/4	of Section 27
		NW 1/4	NW 1/4	SW 1/4	of Section 27
T 2S	R 7E	SE 1/4	NE 1/4	SE 1/4	of Section 28

1.5 UTM:

Zone 12 511200 Easting 5053000 Northing

1.6 Site type: historic coal mine	1.7 Recording status & comments: recorded mapped and photographed

1.8 Administrative/surface ownership: Jerry Burkhart 2440 Kalmia Ave. Boulder, CO 80302	1.9 Mineral ownership:
	1.10 Project name: Department of State Lands Abandoned Mines Reclamation Program

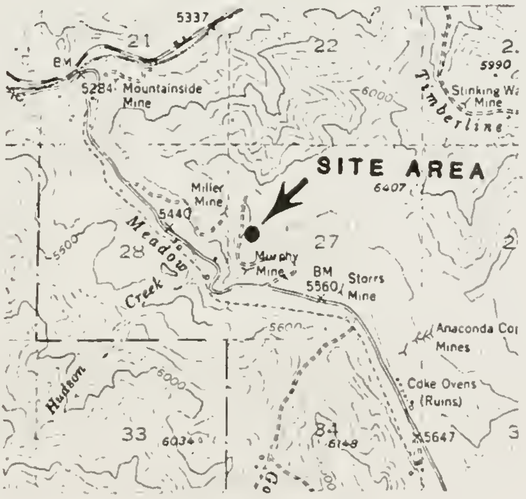
1.11 General narrative description of site:

The site consists of collapsed adits, coal spoil dumps, two collapsed buildings and the remains of a coal chute located on a steep sloping mountain side. The site comprises several small commercial coal mines which operated during the 1920s and 1930s.

1.12 Map reference:
Bozeman Pass USGS 15 minute series (1951)

1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:
Go about 8-1/2 miles east of Bozeman, MT on Highway 10 and turn off onto the Trail Creek road. Go about 2-1/2 miles up the Trail Creek road. The site is on the mountain side on the east side of the road.



D86U2.7

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA774

2.1 Geographic setting:

2.2 Elevation: 1680- m 5520- ft.
1806 5925

General: The site is located on the eastern edge of the Rocky Mountains. It is near Bozeman Pass which separates the Bridger Range to the north from the Gallatin Range to the south. The site is on the Gallatin Range side of the pass.
Local: The site is on a steep west sloping mountain side. A small, steeply sloping ravine is located on the west side of the site. Directly below and west of the site is the Meadow Creek drainage which flows northerly through a deep and narrow ravine.

2.3 View/aspect:
Good view down Meadow Creek for one-half mile.

2.4 Major drainage:

Meadow Creek

2.5 Minor drainage(s):

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Meadow Creek	100 ft to the SW	20 ft	flows year around
b.				

2.7 Regional vegetation:
Lodgepole Pine - Douglas fir forest (Payne 1973)

2.8 Local vegetation:
Heavy patches of hawthorne, lodgepole pine, pine whortle berry and pine reedgrass

2.9 Soils:
clay loam soil with sandstone outcrops

2.10 Surface visibility/season of survey:
Good/May 1987

2.11 Other environmental factors pertaining to site location:
The site is located within the Meadow Creek coal district of the Livingston coal field. There are numerous coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA774

3.1 Condition of site:
Since all of the structures at the site have collapsed the site is considered to be in a state of ruins.

3.2 Site significance (NRHP):
The mines at this site, like those in the immediate area, helped settle the area by providing a relatively inexpensive source of fuel energy during the turn of the century and during the 1930s. Since the structures are in a state of ruins the site has lost its historic identity. The site is not recommended as eligible for listing on the NRHP.

3.3 Impacts:
The Department of State Lands plans to either remove or reclaim the coal spoil dumps and remove debris at the site.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Tom Jerde and Jim Duran Date: 5/15/87	3.6 Site recorded by: Tom Jerde, Jim Duran and Gene Munson Date: 5/15/87	3.7 Revisions by: Date:

3.8 Permit No.: NA

3.9 Publications concerning site:

Munson, Gene 1987 A Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County portion of the Livingston Coal Field, Montana. For the Montana Department of State Lands. GCM Services, Inc., Butte.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E.
1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D. C.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
27	coal chute for Whitehead-Robinson Mine (F-2)	NE
28	collapsed structure (F-3)	NE
29	collapsed building (F-5)	E
30	coal car remains	N
31	coal car remains	E
32	coal car remains	W
33	Whitehead-Robinson coal waste dump (F-6)	S
34	overview	N
35	tipple remains for Meadow Creek Mines (F-4)	SW
36	close-up of tipple remains (F-4)	S
37	"V"-shaped feature for chute (F-4)	S

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24GA774

5.1 Site dimensions, how determined: The site area was limited to the mines located on the east side of a small steeply sloping ravine that runs down the face of the mountain side. This topographical boundary separates these mines from those on the west side of the ravine. The site measures 400 m northeast/southwest x 120 m northwest/southeast. This is the area in which the features and artifacts are located.

40,000 m^2

5.2 Features: See attached.

5.3 Artifacts (observed, collected):
Scattered around the site are cans, bolts, broken glass, nails, cable, wire and roofing tin. There are the remains of four coal cars. Two are located immediately north of Feature 6, the large coal slack pile, and the other two are immediately south of coal slack dump Feature 8. On top of coal slack pile (Feature 9) are two "J" mine rails which were used on the tipple (which no longer exists) for tipping the coal cars.

5.4 Historical information and evaluation:
The site, which is on the steeply sloping face of a mountain side, contains six mines. Mining took place intermittently from 1884 to 1942. The coal from the mines was sold locally for domestic use.

Daniel Maxey, who opened up the Meadow Creek No. 3 Mine in 1884, was the first operator at the site. The site is not called the Maxey Mine site in this report so it would not be confused with the Maxey Brothers mines on Trail Creek. Daniel Maxey also opened up the first mine at the Mountainside Mine (24GA773). The name Meadow Creek No. 3 was given to the mine by W. D. Gibson around 1921. The mine was developed on the Storrs No. 3 bed by two horizontal drifts, the longer of which was about 600 ft in length. After a few years, Maxey moved his operations to the Trail Creek coal district and opened up the Maxey Brothers Mine (Roberts 1966).

In 1918 Daniel Maxey's sons returned to the site and opened up a horizontal drift located further up the mountain side from their father's mine. This is known as Meadow Creek No. 2 Mine. The Maxey Brothers mined about 50 tons per day for a year. In 1922 W. D. Gibson, owner of Meadow Creek Coal Company, took over the mine. Until it was closed in 1924 it was Meadow Creek Coal Company's largest producing mine (Roberts 1966).
(continued)

5.5 References:
(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.:
None

5.2 Features: (continued)

Feature 1 is the collapsed adit entry for the Whitehead-Robinson Mine. It is located about 10 m north of Feature 1.

Feature 2 is a collapsed load-out chute made of boards on a wood frame. Pieces of roofing tin cover the boards. It measures 55 ft northeast/southwest x 7 ft northwest/southeast. The chute begins near the mine portal and runs down the face of the mountain to an abandoned mine road (Feature 11).

Feature 3 is a pile of logs and boards. It probably is the remains of a small building. It is located a few feet northwest of Feature 1.

Feature 4 consists of the remains of a 500 ft long coal chute that ran down the mountainside to a spur line of the Turkey Trail Railroad* (Roberts 1966). The top of the chute was located at coal spoil dump Feature 7. Coal from Meadow Creek No. 1 Mine was transported about 500 ft on a narrow gauge track and dumped into the chute at Feature 7. Nothing remains of the chute or tipple for the Meadow Creek No. 1 Mine. Approximately 200 ft below the top of the chute was another tipple so the coal cars from Meadow Creek Mine No. 2 could be dumped into the chute. Part of this tipple remains. It consists of four posts set in a 10 ft square pattern. They are about six ft above the ground surface. A few planks are nailed to the posts. In order to help make the structure more rigid the posts are tied together with threaded steel rods. Part of the railroad bed and track from the mine to the tipple still exists. Fourteen feet down the mountain slope from the tipple are several planks nailed to posts that are set in a "V" pattern. There is an opening at the bottom of the V so the coal could enter the chute. Along the entire length of where the chute was located there is a 4 ft wide corridor of coal and occasional pieces of rotting planks and posts.

Feature 5 is a collapsed wood frame building located about 18 ft southeast of Feature 2. The building had vertical boards on the walls with a shed roof. It measures 10 ft east/west x 16 ft north/south.

Feature 6 is a large coal slack dump located immediately in front of the Whitehead-Robinson Mine portal (Feature 2).

Feature 7 is a small coal slack dump located between Features 6 and 8. Apparently, the dump is coal waste from the Meadow Creek No. 1 Mine (Feature 18).

Feature 8 is a medium size coal slack dump located south of Features 6 and 7. It is from coal waste dug out of the Meadow Creek No. 2 Mine. The coal slack dump (Feature 6) from the Whitehead-Robinson Mine (Feature 2) has covered over the Meadow Creek No. 2 Mine portal.

Feature 9 is a fairly small coal slack dump located adjacent to and west of Feature 8. This dump is from coal waste dug out of the Harris-Murphy Mine (Feature 10).

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* See site inventory form for Mountainside Mine (24GA773), Feature 5, for more information on the Turkey Trail Railroad.

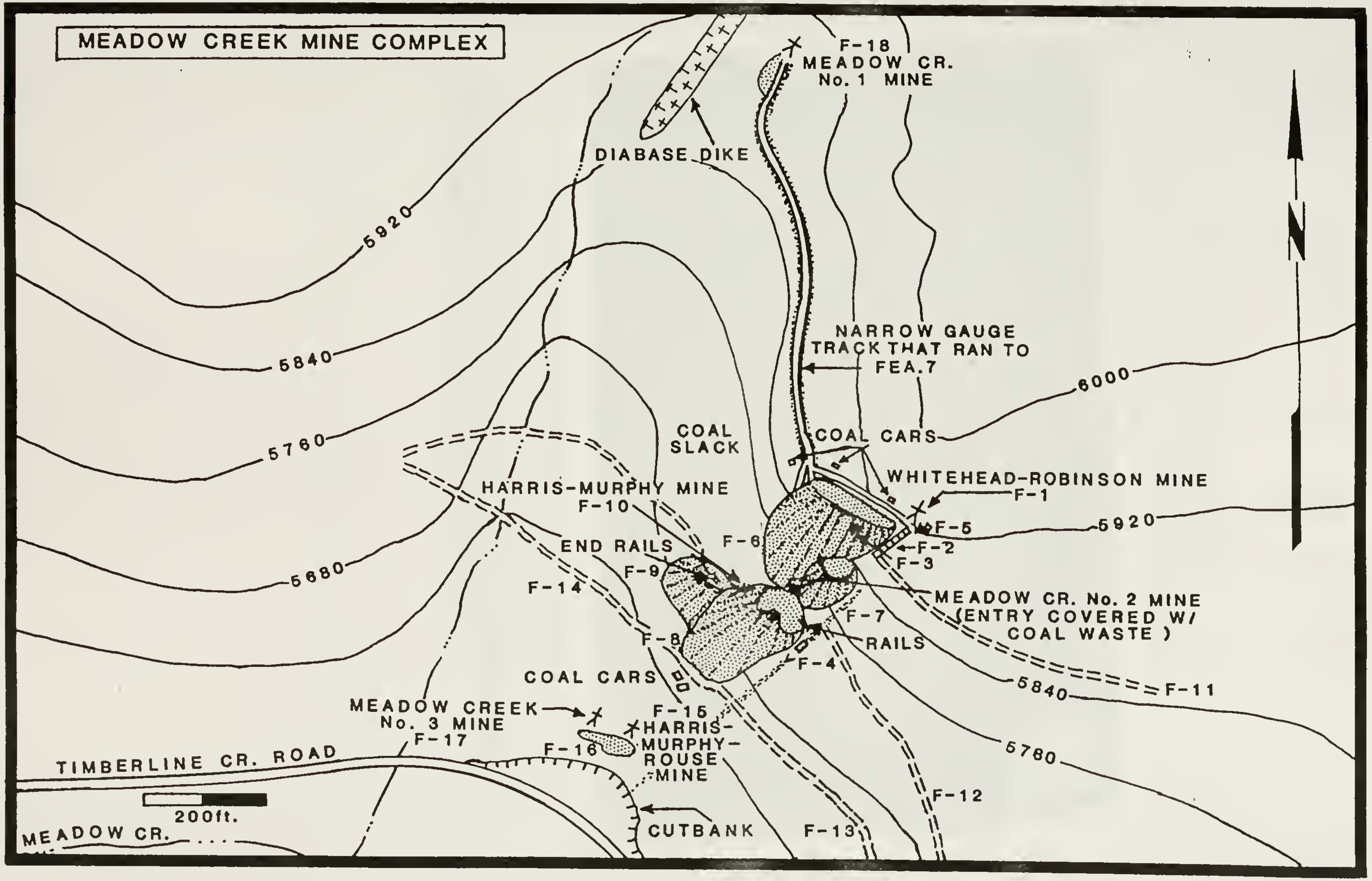
5.4 Historical information and evaluation: 24GA774

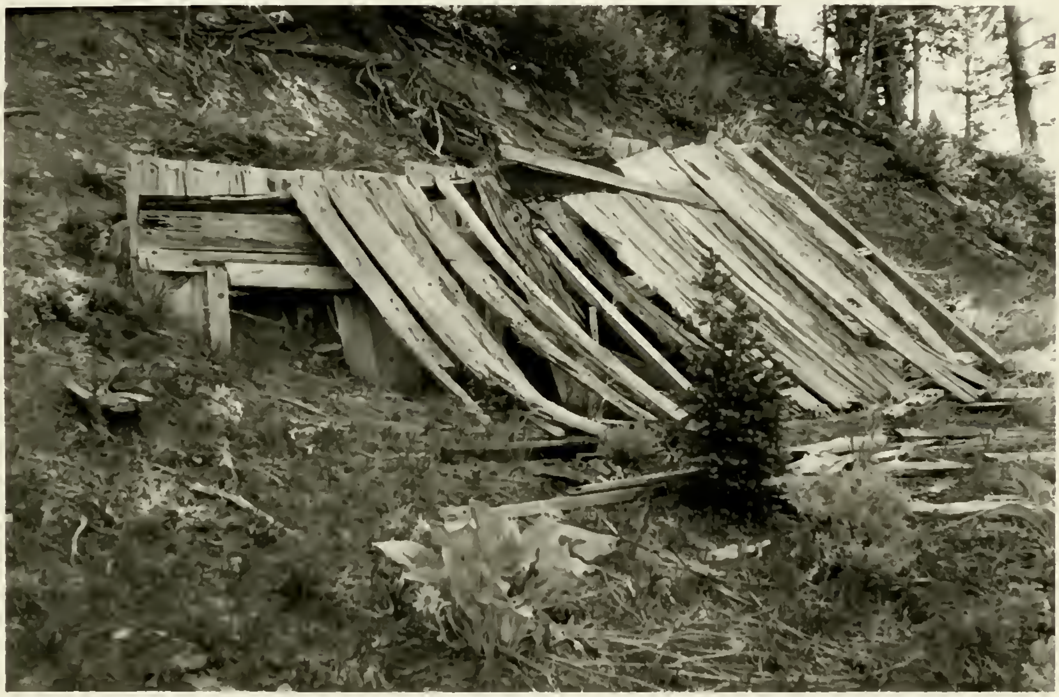
In 1921 W. D. Gibson obtained the leases on several mines along Meadow Creek and Trail Creek. Besides the above two mines, he leased the Washoe Mine and the Maxey Brothers Mines on Trail Creek. In 1922 he opened Meadow Creek No. 1. It was during this period the above mines were labeled as Meadow Creek Mine No. 1, Meadow Creek Mine No. 2 and Meadow Creek Mine No. 3. Curiously, the older the mine the larger the number given to it. The Meadow Creek No. 1 Mine was located adjacent to an exposed diabase dike. This dike turned out to limit the amount of accessible coal. It was a small mine on the Cokedale bed and only operated for one year (Roberts 1966).

During the early 1930s three more mines were opened: the Whitehead-Robinson, Harris-Murphy and Harris-Murphy-Rouse. The Whitehead-Robinson Mine opened in 1931 and closed in 1942. It was the largest producer of the three. Like Meadow Creek Nos. 2 and 3, and Harris-Murphy Mines, this mine also worked the Storrs No. 3 bed (Roberts 1966).

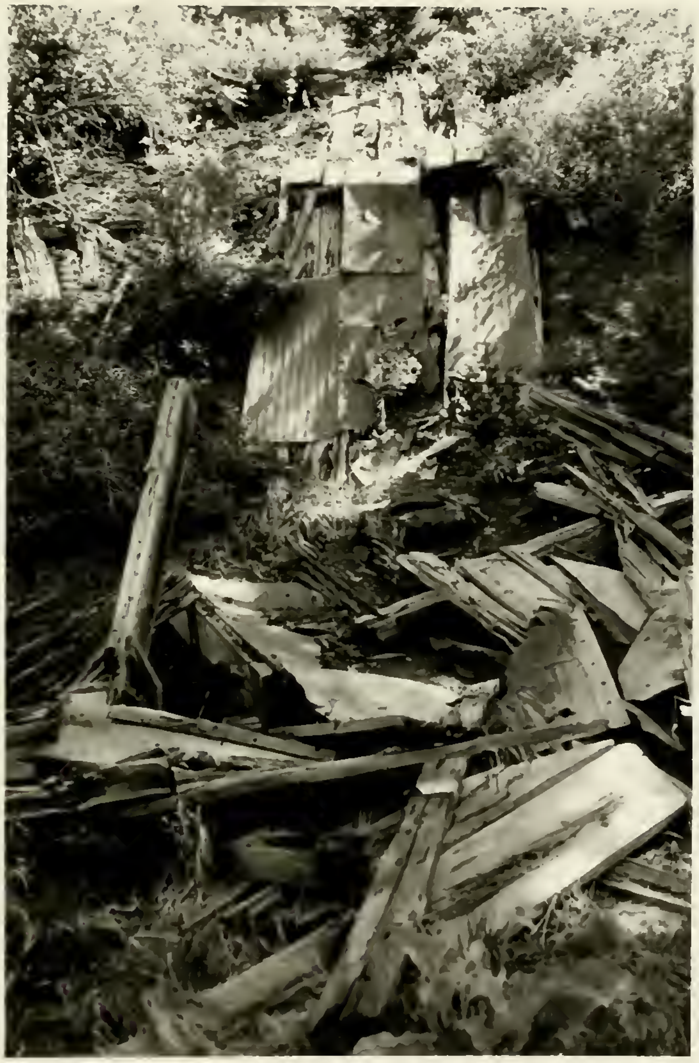
The Harris-Murphy was a small mine in which a drift was driven along the lower level of the Meadow Creek No. 2 Mine (Roberts 1966).

The Harris-Murphy-Rouse Mine was opened up in 1931 in an unsuccessful attempt to intersect the Storrs No. 3 bed (Roberts 1966).


MEADOW CREEK MINE COMPLEX
N
F-18
MEADOW CR.
No. 1 MINE
DIABASE DIKE
5920
5840
5760
5680
NARROW GAUGE
TRACK THAT RAN TO
FEA.7
6000
COAL
SLACK
COAL CARS
WHITEHEAD-ROBINSON MINE
F-1
F-5
5920
F-2
F-3
HARRIS-MURPHY MINE
F-10
END RAILS
F-6
F-9
F-14
MEADOW CR. No. 2 MINE
(ENTRY COVERED W/
COAL WASTE)
F-7
F-8
RAILS
F-4
COAL CARS
5840
F-11
MEADOW CREEK
No. 3 MINE
F-17
F-15
HARRIS-
MURPHY-
ROUSE
MINE
F-16
5780
TIMBERLINE CR. ROAD
F-12
200ft.
CUTBANK
F-13
MEADOW CR.



Remains of a collapsed building at the Whitehead Robinson Mine (view East) at Meadow Creek Mine Complex.



Remains Of Whitehead Robinson Mine's Coal Chute At The Meadow Creek Mine Complex (view Northeast)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA775	1.2 Site name/field designation: Pendleton Mine	1.3 County: Gallatin

1.4 Township/range:

T 2S R 7E NE 1/4 SW 1/4 SE 1/4 of Section 24

1.5 UTM:

Zone 12 515500 Easting 5054400 Northing

1.6 Site type: historic coal mine	1.7 Recording status & comments: recorded, mapped and photographed

1.8 Administrative/surface ownership: Gerald Miller Trail Creek	1.9 Mineral ownership:
	1.10 Project name: Department of State Lands Abandoned Mines Reclamation Program

1.11 General narrative description of site:

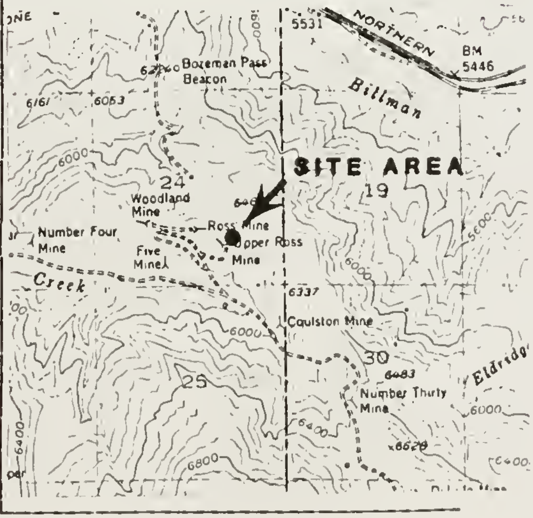
The site consists of two collapsed portals, a coal slack dump, a collapsed coal chute, and a collapsed building. The mine was a small commercial coal mine which operated briefly during the 1940s.

1.12 Map reference:
Bozeman Pass Quad. 1955 USGS 1:62500

1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:

Go east of Bozeman on I-90 for 17 miles. Turn off on Jackson Creek Road and go south up Timberline Creek for 3-1/2 miles. The site is on the east end of the mountain side to the north. It is about 1/4 mile from the road.



D86U1.5

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA775

2.1 Geographic setting:

2.2 Elevation: 1005 m 6250 ft.

General: The site is in the eastern edge of the Rocky Mountains.
Local: The site is on the south side of a mountain ridge in a small, steep, narrow ravine.

2.3 View/aspect:
Only view is to the south across the Timberline Creek drainage to a mountain called Center Hill which is about one mile away.

2.4 Major drainage:
Timberline Creek

2.5 Minor drainage(s):
small unnamed creek

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Timberline Creek	1/8 mile south	340 ft	all year round
b.	small unnamed creek with spring	50 yards east	80 ft	spring which may flow all year round

2.7 Regional vegetation:
lodgepole pine - Douglas fir forest

2.8 Local vegetation:
wheatgrass, hawthorne, fir, wild rose, sagebrush and aspen

2.9 Soils:
clay silt loam with rich top soil in low areas

2.10 Surface visibility/season of survey:
fair/May 1987

2.11 Other environmental factors pertaining to site location:
The site is in the Timberline district of the Livingston coal field. There are several abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA775

3.1 Condition of site:
The site is considered to be in a state of ruins since the coal loading chute, building and mine entry have collapsed.

3.2 Site significance (NRHP):
The site is one of several local coal mines that marks a resumption of mining in the Timberline Creek coal mining district during the 1930s and 1940s. This resurgence of small scale mining occurred across the state of Montana. However, without the survivial of the structures that existed during the property's historical period, it lacks integrity. The site is not recommended as eligible for listing on the NRHP.

3.3 Impacts:
The Department of State Lands plans to revegatate the coal slack dump, fill in the cut that leads to the collapsed adit and remove the debris at the site.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Tom Jerde	3.6 Site recorded by: Tom Jerde and Gene Munson	3.7 Revisions by:
Date: May 1987	Date: May 1987	Date:

3.8 Permit No.: N/A

3.9 Publications concerning site:

Munson, Gene 1987 A Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County portion of the Livingston Coal Field, Montana. For the Montana Department of State Lands. GCM Services, Inc. Butte.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E.
1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D. C.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
13	adit portal area	N
14	overview	S
15	collapsed coal chute (F-3)	N
16	ripper	SE
17	overview from Timberline Nos. 1 and 2 Mine site	N

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24GA775

5.1 Site dimensions, how determined:
The site measures 85 m northwest/southweast x 24 m northeast/southwest. This is the area in which the features are located.

1950 m2

5.2 Features:
Feature 1 is a collapsed adit entry with a 70 ft long x 20 ft wide cut into the mountain located in front. Rails for the coal cars are protruding out of the entry.

Feature 2 is a coal slack dump. It has two levels. The upper level is located in front of the cut which leads to the adit entry. It has a relatively flat area about 60 x 60 ft where a building (Feature 4) was probably located. The lower level which is about 20 ft lower than the upper level, has a flat area about 50 ft wide and 80 ft long where the coal was loaded. A coal chute (Feature 3) which decended from the upper level is located on this level.

(continued)

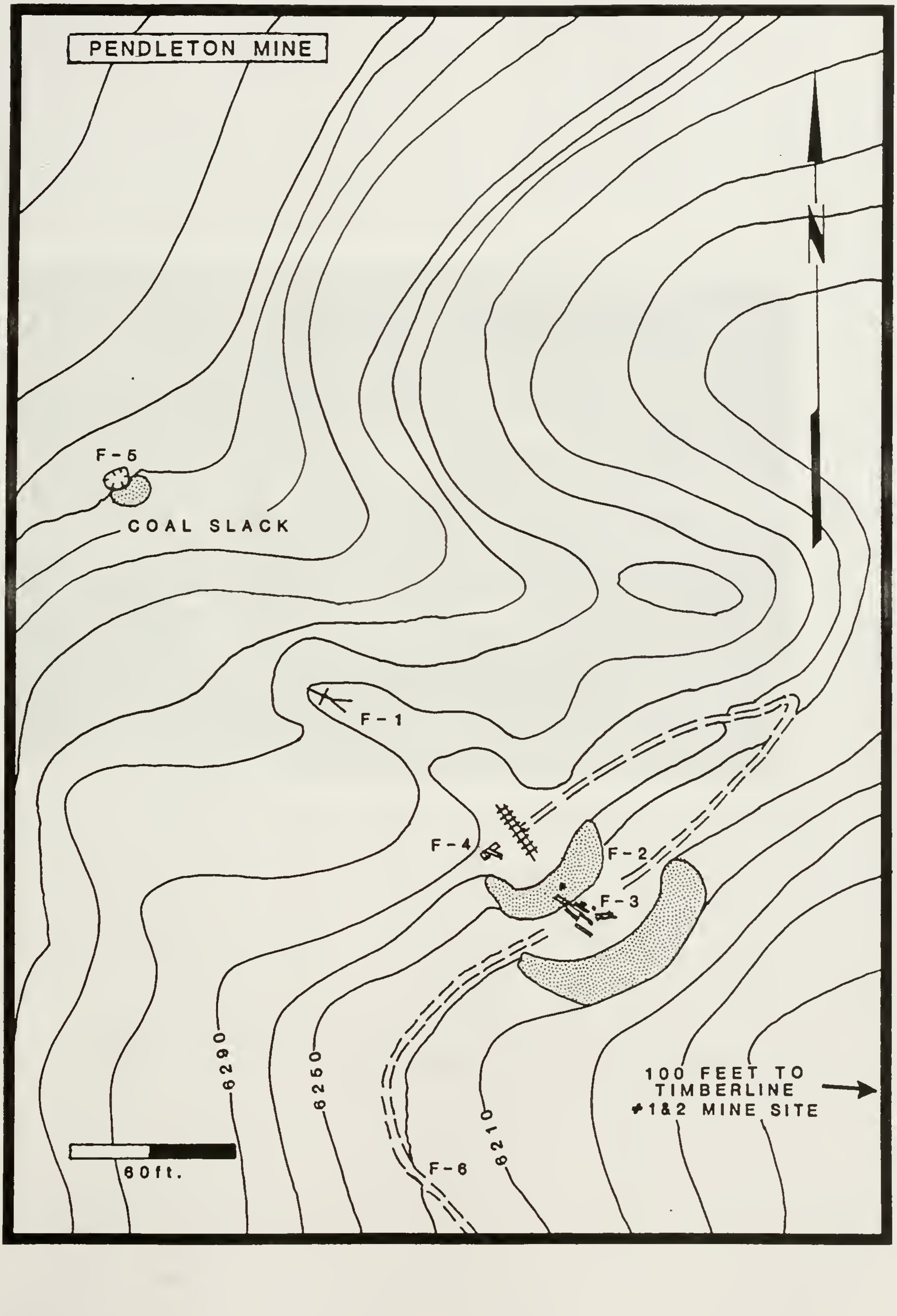
5.3 Artifacts (observed, collected):
Artifacts consist of wood debris, round nails, pieces of roofing material, bolts, and several pieces of fairly heavy mine rail (at least 16 lb) scattered around the site.

5.4 Historical information and evaluation:
H. D. Pendleton opened the mine in 1943 and discontinued operations in 1947. It was a horizontal drift driven northward into the Cokedale bed for 390 ft. Coal production was quite small with the coal being sold locally (Roberts 1966).

The mining technique was a modified room-and-pillar system with 45 ft centers (Robert 1966).

5.5 References
(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.
None


PENDLETON MINE
N
F-5
COAL SLACK
F-1
F-4
F-2
F-3
6290
6250
6210
F-6
60ft.
100 FEET TO
TIMBERLINE
#1&2 MINE SITE

Remains Of Coal Chute At The Pendleton Mine (View North)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA776	1.2 Site name/field designation: Timberline Nos. 1 and 2 Mines	1.3 County: Gallatin

1.4 Township/range:

T 2S R 7E NW 1/4 NE 1/4 SE 1/4 SW 1/4 SE 1/4 of Section 24

1.5 UTM:

Zone 12 515600 Easting 5054400 Northing

1.6 Site type: historic coal mine	1.7 Recording status & comments: Photographed, mapped and recorded

1.8 Administrative/surface ownership: Gerald Miller Trail Creek	1.9 Mineral ownership: 1.10 Project name: Department of State Lands Abandoned Mines Reclamation Program

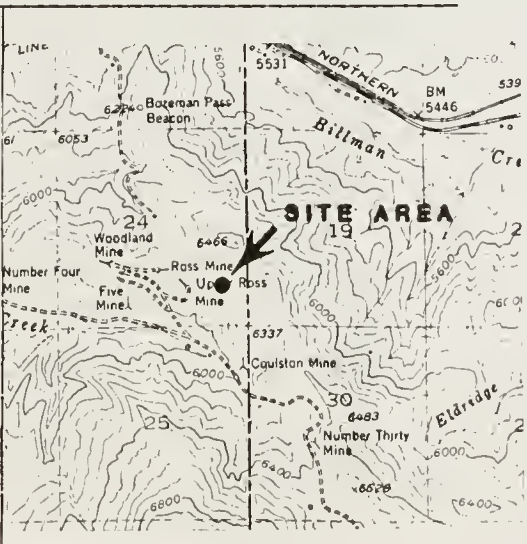
1.11 General narrative description of site:

The site consists of a coal spoil dump, three collapsed adit entries, one possible shaft entry and a subsidence hole. The site is located in the bottom of a narrow ravine. The Pendleton Coal Mine is approximately 300 ft northwest of the site. The Timberline mines were commercial operations which were active in the late 1880s and early 1890s.

1.12 Map reference:
USGS Bozeman Pass 15 Min Quad. (1951 edition)

1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:
Go east of Bozeman on I-90 for 12 miles. Turn off on Jackson Creek road exit and go south up Timberline Creek for 3-1/2 miles. The site is in the ravine between two mountain ridges on the north side of the road. It is about 1/4 mile from the road.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA776

2.1 Geographic setting:

2.2 Elevation: 1870 m 6140 ft.

General: The site is on the eastern edge of the Rocky Mountains.
Local: The site is in a narrow ravine that cuts through a northwest/southeast trending mountain ridge. The small stream in the bottom of the ravine drains into Timberline Creek which is located 1/4 mile to the south.

2.3 View/aspect:
View is limited to the south into the Timberline Creek drainage. This is for about 1/2 mile.

2.4 Major drainage:

Timberline Creek

2.5 Minor drainage(s):

unnamed small stream at site

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Timberline Creek	1/4 mile	240 ft	year around
b.	unnamed stream	at site	flows through site	unknown

2.7 Regional vegetation:
lodgepole pine - Douglas fir forest (Payne 1973)

2.8 Local vegetation:
Douglas fir, hawthorne, aspen, wildrose, wheatgrasses, fescue and sagebrush

2.9 Soils:
brown loam

2.10 Surface visibility/season of survey:
fair to poor/May and June

2.11 Other environmental factors pertaining to site location:

The site is located in the Timberline mining district of the Livingston coal field. There are several abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA776

3.1 Condition of site: Since none of the structures remain the site's condition is considered as destroyed.

3.2 Site significance (NRHP):
This site, as well as the other nearby coal mines, played an important role in the development of Montana during the late 1800s by providing coal to fuel the locomotives on the Northern Pacific Railroad. However, without the structures the site no longer has the capacity to adequately convey association with this historical pattern of events. It is not recommmended for listing on the NRHP.

3.3 Impacts:
The Department of State Lands plans to backfill the adit depression and cover the coal slack dump with top soil and revegatate it.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Tom Jerde	3.6 Site recorded by: Tom Jerde and Gene Munson	3.7 Revisions by:
Date: May 1987	Date: May and June 1987	Date:

3.8 Permit No.: NA

3.9 Publications concerning site:

Eldridge, G. H.
1886 Montana coal fields. In: Report on the Mining Industries of the United States, 1880: U.S. Census, 10th, V. 15. U.S. Government Printing Office. Washington, D. C.

Montana Inspector of Mines
1891-1895 Annual report of the Inspector of Mines of the State of Montana.

Munson, Gene 1987 A Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County portion of the Livingston coal field, Montana. For the Montana Department of State Lands. GCM Services, Inc., Butte.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E.
1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D.C.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
18	Timberline No. 2 Mine adit entry (F-1)	ENE
19	subsidence hole (F-2)	E
20	rock and coal slack dump for mine No. 1	W
21	adit entry for Timberline No. 1 mine (F-4)	NW
22	depression (F-5)	E

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24GA776

5.1 Site dimensions, how determined:
The site measures 50 m north/south x 65 m east/west. This is the area in which the features are located.

1200 m^2

5.2 Features:
Feature one is a collapsed adit entry located on the east side of the site on the west-facing mountainside a few feet above the bottom of the ravine. It is marked by a 30 ft long x 16 ft wide cut into the mountainside which marks the location of Timberline No. 2 Mine (Roberts 1966).
Feature two is a 40 ft east/west x 20 ft north/south x 4 ft deep subsidence hole located about 100 ft east of Feature 1. It is on the side of a steeply sloping mountainside.
Feature three is a 120 ft north/south x 90 ft east/west coal spoil dump located in the bottom of the ravine. A small stream flows through the dump.
Feature four is a collapsed adit entry for the Timberline No.1 Mine (Roberts 1966). It is a few feet above the bottom of the ravine on the west side of the site.
Feature five is a depression on the mountainside about 30 ft north of Feature 4 which may have been another mine entry.
Feature six is a 20 ft diameter x 5 ft deep hole located near the bottom of the ravine which may be the location of the inclinded shaft reported by Roberts (1966:38).

5.3 Artifacts (observed, collected):
None observed.

5.4 Historical information and evaluation:
Timberline No. 1 and No. 2, are two of the six mines opened up along Timberline Creek by C. W. Thompson, Manager of the Northern Pacific Coal Company (a subsidiary of Northern Pacific Railroad) during the early 1880s. In 1883 a narrow gauge railroad was run up Timberline Creek from the Northern Pacific mainline at West End (which is located near the Bozeman Pass). The Timberline Mines were leased to C. W. Hoffman in 1888. He operated the mines until they were closed in 1895. During this period, G. B. Hoffman was manager; James Anderson, superintendent; Thomas Atherton, pit boss; and John Rufly, fire boss. Collectively, the mines employed around 100 to 140 men and produced more than 200 tons of coal per day. The coal was used exclusively by the Northern Pacific Railroad for locomotive fuel on the run between Glendive, Montana and Sprague, Washington (Roberts 1966; Montana Inspector Reports 1891-1895). Little information is available on the surface workings of the mine. It is not known whether each mine had its own washing plant nor is it known what type of tipples were used at the mines.
(continued)

5.5 References
(See Section 3.9)

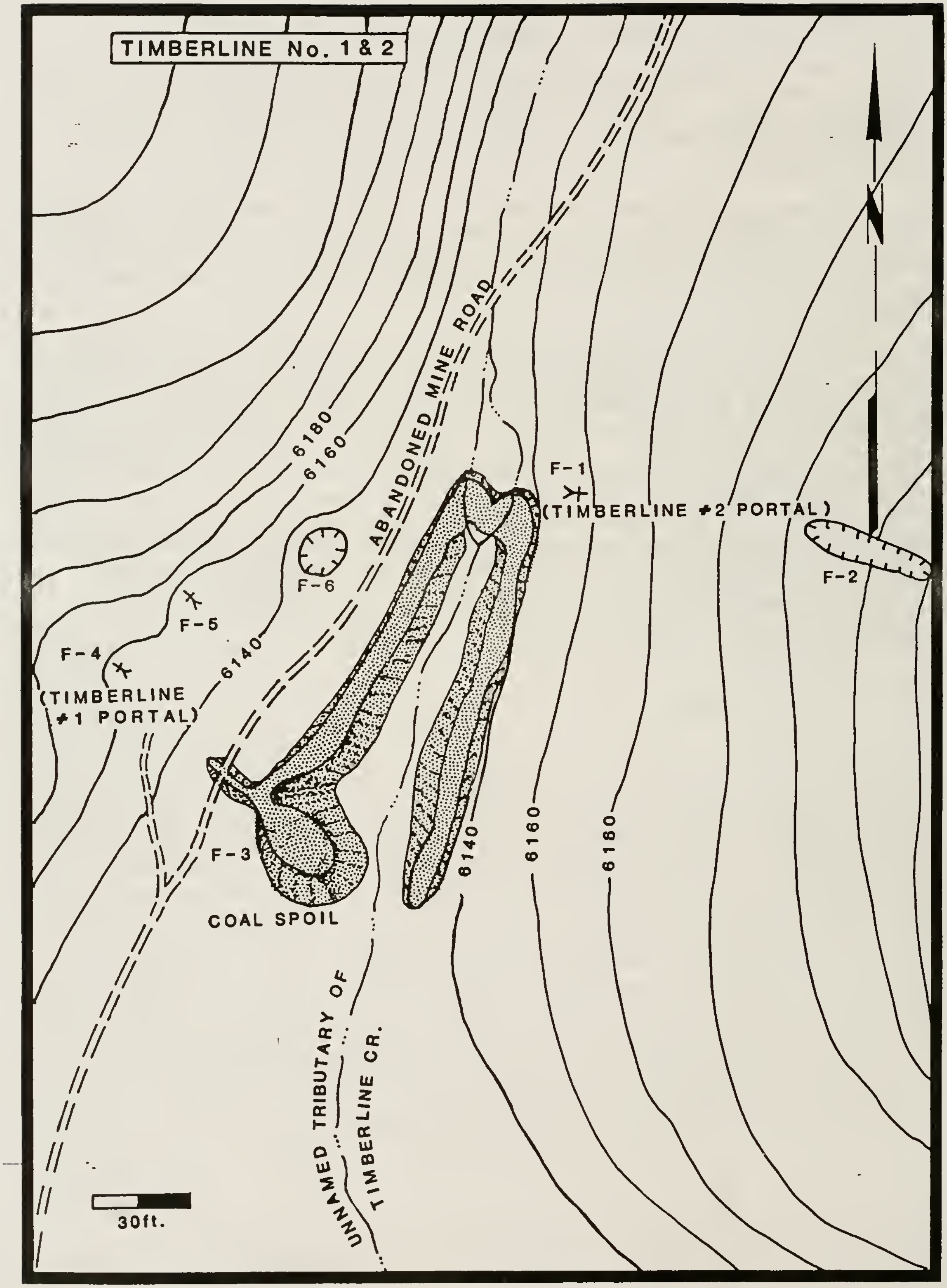
5.6 Subsurface testing, results, methods, etc.
None

Timberline No. 1 was a horizontal drift driven westward for 600 ft on the Cokedale bed which slopes 52° north/east. Eldridge (1886) reports it had fewer and smaller partings than did the mines to the south. Immediately east of this entry an inclinded shaft was driven into the Cokedale bed (Roberts 1966).

The mine was opened around 1881 (Roberts 1966). The exact date of closure is not known but probably was shut down by 1895 since all of the Timberline mines were closed at that time. The Montana Inspector of Mines (1895) reported that the mine had opened a new tunnel and explosive gases were reported.

Timberline No. 2 was located 200 ft east of the Timberline No. 1 portal. It was a horizontal drift that ran eastward into the west facing mountain side for 500 ft along the Cokedale bed (Roberts 1966). The mine probably was opened up about the same time as Timberline No. 1. Apparently, it was last worked in 1895. The Montana Inspector of Mines (1895) stated that a new tunnel had been opened and, like the No. 1 mine, it contained explosive gases.

In 1894 the underground workings of the Timberline No. 1 and No. 2 Mines were connected with those of the Timberline No. 4 Mine. This mine then became the haulageway for Timberline No. 1 and No. 2 Mines.


TIMBERLINE No. 1 & 2
N
6180
6160
ABANDONED MINE ROAD
F-1
(TIMBERLINE #2 PORTAL)
F-2
F-6
F-5
F-4
(TIMBERLINE #1 PORTAL)
6140
F-3
COAL SPOIL
6140
6160
6180
UNNAMED TRIBUTARY OF TIMBERLINE CR.
30ft.

Coal Slack Pile infront of Timberline Mine No.1 Mine (view West)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA777	1.2 Site name/field designation: Timberline No. 3 Mine	1.3 County: Gallatin

1.4 Township/range:

T 2S R 7E N 1/2 SW 1/4 SE 1/4 of Section 23

1.5 UTM:

Zone 12 513085 Easting 5054045 Northing

1.6 Site type:
historic coal mine

1.7 Recording status & comments:
recorded, mapped and photographed

1.8 Administrative/surface ownership:

Hilda M. Peterson
Bozeman, MT

1.9 Mineral ownership:

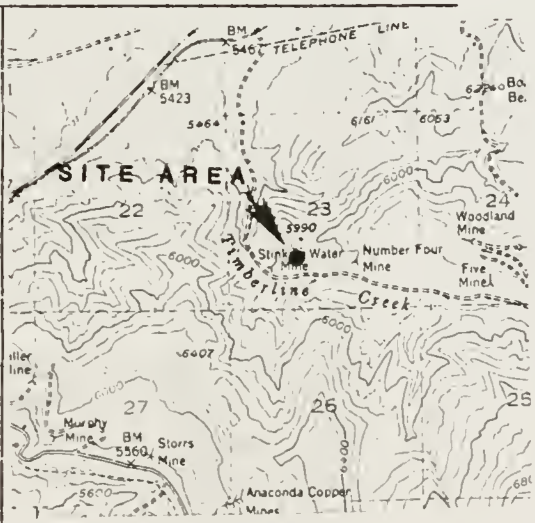
1.10 Project name:
Department of State Lands Abandoned Mines Reclamation Program

1.11 General narrative description of site:
This mine is located along the north side of Timberline Creek in low rolling mountains. The adits (all of which are collapsed) are at the base of the hill and the coal slack dumps are on the terrace adjacent to Timberline Creek. There are no remaining structures. The mine was an industrial operation which supplied coal to the Northern Pacific Railway during the 1880s and 1890s.

1.12 Map reference:
Bozeman Pass Quad. 1955 USGS 1:62500

1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:
Go east of Bozeman, Montana on I-90 for 12 miles. Turn off on Jackson Creek road and go south up Timberline Creek for two miles. The road passes through the middle of the coal slack dump of the mine.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA777

2.1 Geographic setting:

2.2 Elevation: 1737 m 5700 ft.

General: The site is in the eastern edge of the Rocky Mountains.
Local: The site is in the bottom of a narrow ravine and on its south-facing side. The mountain ridges are 600 ft to 1000 ft above the bottom of the ravine.

2.3 View/aspect:
View is within the ravine. Maximum view is to the east along the face of the ravine and this is about one-half mile.

2.4 Major drainage:
Timberline Creek

2.5 Minor drainage(s):
small springs

2.6 Water sources:

Names	Distance	Ele. Change	Type & seasonality
a. Timberline Creek	flows through the site		creek all year round
b. small springs on the site			spring all year round

2.7 Regional vegetation:
lodgepole pine - Douglas fir forest (Payne 1973)

2.8 Local vegetation:
hawthorne and chokecherry are growing on the south-facing mountain side with alder, snowbrush, willow, dogwood and sedges along creek. Pine, aspen, fir trees on south side of creek on mountain side.

2.9 Soils:
Clay loam with siltstone outcrops. Rich top soil in low areas.

2.10 Surface visibility/season of survey:

Poor to fair due to heavy vegetation / May 1987

2.11 Other environmental factors pertaining to site location:
The site is in the Timberline coal district of the Livingston coal field. There are several abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA777

3.1 Condition of site: Since none of the structures remain the site's condition is considered as destroyed.

3.2 Site significance (NRHP):
This site, as well as the other nearby coal mines, played an important role in the development of Montana during the late 1800s by providing coal to fuel the locomotives on the Northern Pacific Railroad. However, without the structures the site no longer has the capacity to adequately convey association with this historical pattern of events. It is not recommmended for listing on the NRHP.

3.3 Impacts:
The Department of State Lands plans to backfill the adit depressions and cover the coal slack dump with top soil and revegatate it.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Tom Jerde Date: May 1987	3.6 Site recorded by: Tom Jerde and Gene Munson Date: May 1988	3.7 Revisions by: Date:

3.8 Permit No.: NA

3.9 Publications concerning site:

Calvert, W.R. 1912 The Livingston and Trail Creek Coal Fields, Park, Gallatin and Sweetgrass Counties, Montana: U.S. Geological Survey Bulletin 471. U.S. Government Printing Office, Washington, D. C.

Montana Inspector of Mines
1890-1912 Annual report of the Inspector of Mines of the State of Montana.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E. 1966 Geology and Coal Resources of the Livingston Coal Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D. C.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
25	overview	SE
26	portal #3	N
27	portal #1	N
28	portals #5 and #6	N
29	portal #2	N
4 and 5	foundation (F-13)	N

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number:

5.1 Site dimensions, how determined: The site measures 100 m north/south x 200 m east/west. This is the area in which the features are located.

20,000 m2

5.2 Features:

No information was available for the underground workings of the mine. The term adit entrance, is therefore, used rather loosely. Some of the following probable adit entrances may be collapsed air shafts. Feature 1 is a collapsed adit entrance marked by a 20 ft long by 12 ft wide cut into the mountainside. About 20 ft north of the adit is a 14 ft diameter and 3 ft deep depression in the ground.

Feature 2 is a collapsed adit entrance. It is marked by a 14 ft long by 14 ft wide cut into the mountainside. Features 1 and 2 are about 45 ft apart.

Feature 3 is a collapsed adit entrance. It is marked by a 20 ft long by 20 ft wide cut into the base of the mountainside.

Feature 4 is a collapsed adit entrance. It is marked by a 30 ft long by 14 ft wide cut into the base of the mountainside. Features 3 and 4 are about 20 ft apart.

Feature 5 is a collapsed adit entrance. It is marked by a 12 ft long by 12 ft wide cut into the base of the mountainside. A small amount of water seeps out of the adit.

Feature 6 is a collapsed ventilation shaft (Roberts 1966). It is marked by a 12 foot long by 12 foot wide cut into the base of the mountainside. Features 5 and 6 are about 30 feet apart. A small stream of foul-smelling sulfur water issues from this portal; hence, the name Stinking Water Mine was given to this site by the local citizens (Roberts 1966).

Feature 7 is a probable collapsed adit entrance. This feature and Feature 8 are not as clearly marked by cuts into the mountain side as the other adit entrances. The feature is marked by a 6 ft long by 6 ft wide cut into the mountainside. This cut may be the result of natural slumpage.

Feature 8 is a probable collapsed adit entrance. The feature is marked by a 5 ft long by 6 ft wide cut into the mountainside. This cut may be the result of natural slumpage. Features 7 and 8 are 15 feet apart.

(continued)

5.3 Artifacts (observed, collected):

Board, tin for roof, pipe, round nails, rail track and glass.

5.4 Historical information and evaluation:

See attached.

5.5 References:

(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.: None

5.2 Features: (continued)

Feature 9 is a coal slack dump spread out along the north side of Timberline Creek. It measures about 80 feet north/south x 200 feet east/west.

Feature 10 is a coal slack dump in the southeast corner of the site. It is on the south side of Timberline Creek. The dump measures 120 ft north/south and 120 ft east/west. It probably was an extension of the coal dump at Feature 9 but the creek has cut through it.

Feature 11 is a coal slack dump immediately west of Feature 10. It measures 110 ft east/west x 45 ft north/south. The coal dump may have been part of the coal dump at Feature 10 but the creek has cut through it.

Feature 12 is a six foot diameter hole full of water located on the west end of Feature 11. It appears to have been a hand dug well.

Feature 13 is a 12 ft north/south x 14 ft east/west platform foundation made of sandstone rubble. It is about one ft above the ground surface. There are common bricks and fire bricks scattered around the area. On the west and east end of the feature are two rows of 3/4 inch anchor bolts spaced 12 inches apart. Each row consists of five anchor bolts with 24 inch spacing. Feature 12 is located a few feet to the east and Feature 14, which is a pile of clinker, is located a few feet to the west. Feature 12 is the remains of a boiler which may have been for a steam engine or simply to heat water in the winter for washing coal.

Feature 14 is a 20 ft north/south x 20 ft east/west pile of clinker located immediately west of Feature 13.

Feature 15 is the road bed for the narrow gauge track that ran from West End near the top of Bozeman Pass, to the mines along Timberline Creek. The track and cross ties were removed a number of years ago.

Feature 16 is an abandoned road that passes between Features 1 and 2, and Feature 3 and 4. It runs along the mountainside a few feet above Features 5 and 6 descending to the valley floor a short distance to the east. It is only about 6 ft to 10 ft wide and is fairly hard to recognize in places.

Feature 17 is an abandoned road that terminates at Features 3 and 4. It is only six ft to 10 ft wide and is somewhat over grown with vegetation.

The Timberline Mines were owned by the Northern Pacific Coal Company, a subsidiary of the Northern Pacific Railroad. There were six mines called the Timberline No. 1, No. 2, No. 3, No. 4, No. 5 and No. 6. They were located along the north side of the Timberline Creek drainage with Timberline No. 3 being the farthest mine to the west and Timberline No. 6, which was two miles away, the farthest mine to the east. The early reports on the mines generally combined the information on production, number of men workings, etc., under the headling of Timberline Mines. In 1882 a narrow gauge track was run from West End up Timberline Creek to the mines. At West End, which is near the top of Bozeman Pass, the coal was loaded onto the Northern Pacific Railroad's main line trains. The coal was used exclusively by the railroad (Roberts 1966; Montana Inspector of Mines 1891-1895).

Timberline Mine No. 3, which was started in the 1880s and closed in 1895, was by far the largest producer in the area of Timberline Creek (known as the Timberline coal district) and one of the largest producers in the Livingston coal field (Roberts 1966). Daily production from 1885-1895 averaged 300 tons declining to 200 tons near the end of this period (Montana Inspector of Mines 1895). It became known as the Stinking Water Mine because of the odor given off by the sulfur-bearing springs that issue from the mine.*

The coal was used for locomotive fuel by the Northern Pacific Railway Company on the run from Glendive, Montana to Sprague, Washington. From 1888 to 1895 C. W. Hoffman leased the mine from the Northern Pacific Coal Company. The mine was closed after the readily available coal was removed and expensive improvements would have been necessary to continue mining (Roberts 1966).

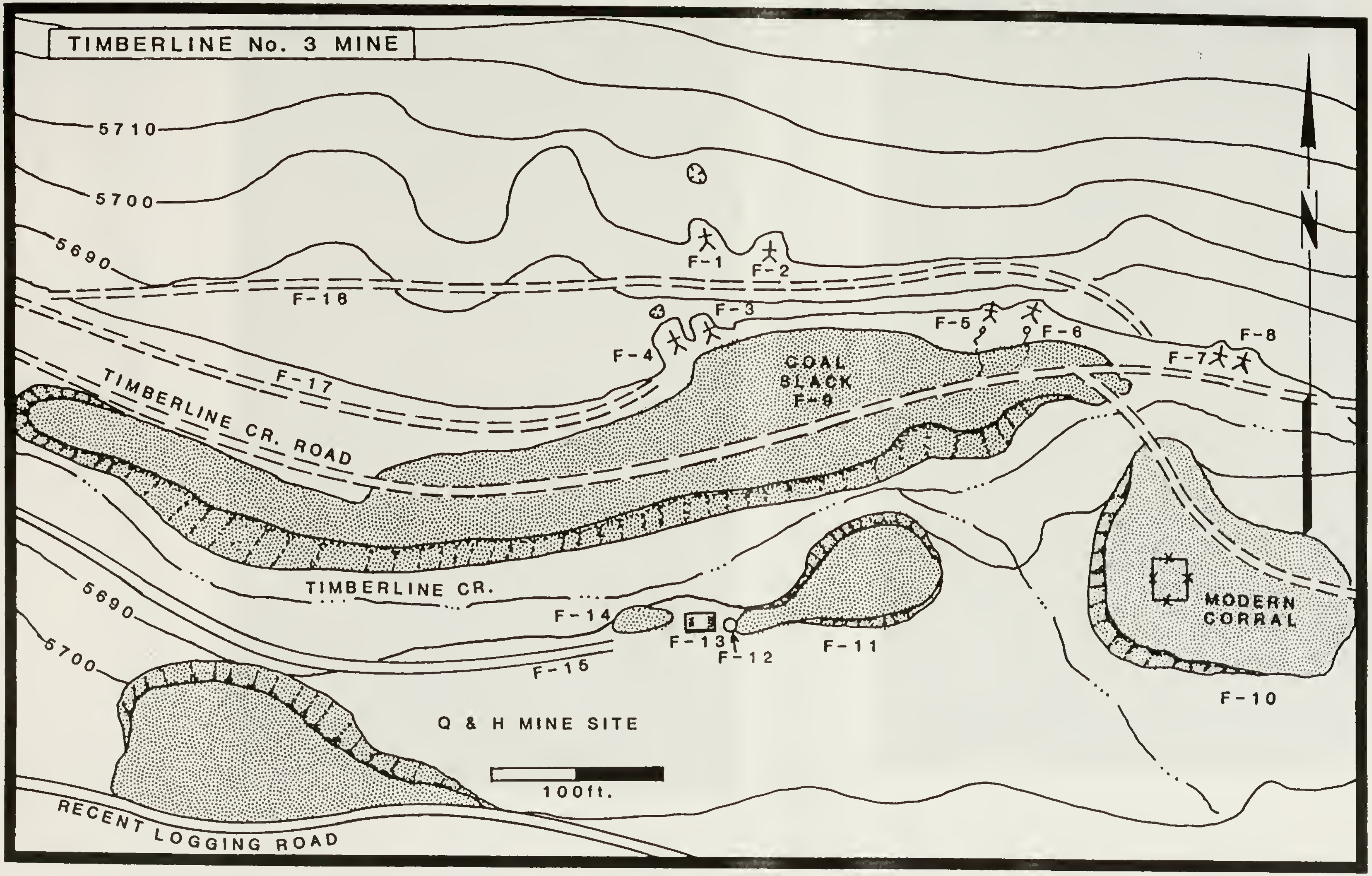
The mine started with a horizontal entry that extended eastward into the Cokedale coal bed. Here the Cokedale bed varied from 4-1/2 to 17 ft thick and contained several partings. At one part of the workings the Cokedale and Paddy Miles beds united resulting in nearly 20 feet of good coal, which was called the Bonanza bed. Near the adit of the horizontal entry a tunnel at a 30° incline extended eastward into the NE1/4 Section 23 (Roberts 1966). The main incline was 900 feet deep by 1895 (Montana Inspector of Mines 1895). However, explosive gases were found in these lower workings of the mine (Montana Inspector of Mines 1896).

Little information was obtained on the surface facilities located at the mine. The Inspector of Mines (1891) mentions that the winch used to pull the cars out of the mine had an 1-inch rope and was powered by a steam engine that had two 12-inch cylinders and a 24-inch stroke. The method of circulating the air in the mine was unusual. Instead of blowing air into the mine the fan pulled it out (Montana Inspector of Mines 1892).

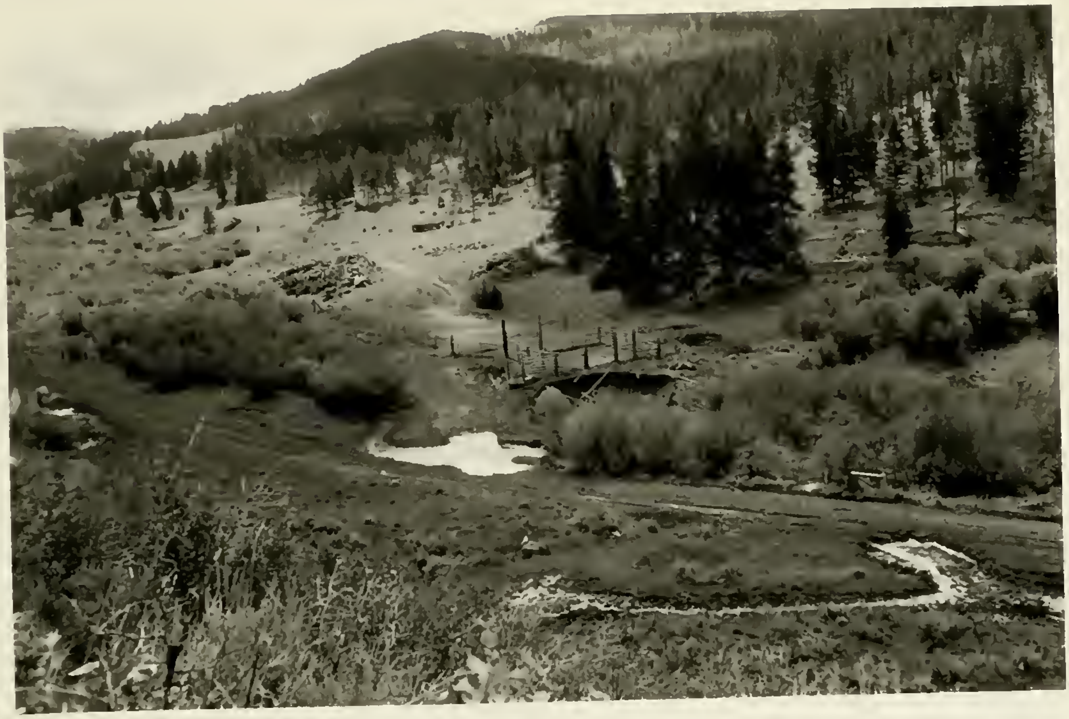
During the 1880s and early 1890s a sizable community known as Timberline was established along Timberline Creek in Sections 23, 24 and 25. While the Timberline No. 3 Mine was at peak production more than 300 miners and their families lived in the community (Roberts 1966).

The mine was briefly re-opened in 1940 by Henry Merrick who mined a few pillars (Roberts 1966).

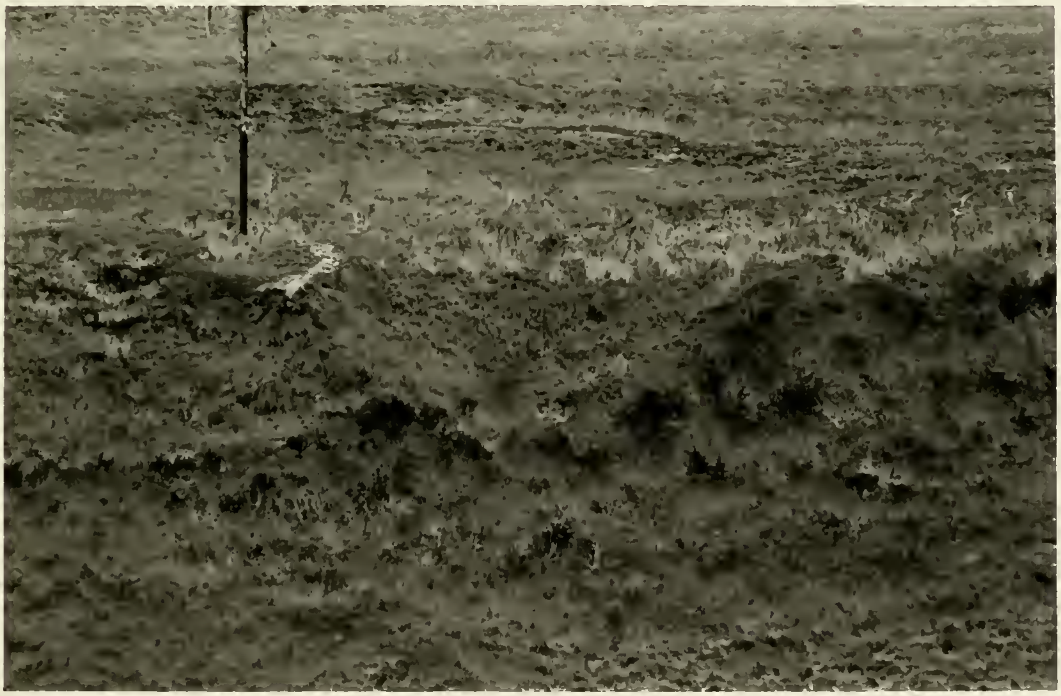
*The U.S.G.S. Bozeman Pass 15 minute quadrangle shows the mine as Number Four Mine and the Stinking Water Mine some distance to the west, however, there is no mine at this location.



TIMBERLINE No. 3 MINE



Overview of coal slack area at Timberline No. 3 Mine (view southeast)



Sulfur water spring coming out of Feature 6 at the Timberline No. 3 Mine (view north).

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA778	1.2 Site name/field designation: Timberline No. 4	1.3 County: Gallatin

1.4 Township/range:

		SE 1/4	SW 1/4	SE 1/4 of Section 24
T 2S	R 7E	NE 1/4	NW 1/4	NE 1/4 of Section 25

1.5 UTM:

Zone 12 515450 Easting 5054100 Northing

1.6 Site type: historic coal mine	1.7 Recording status & comments: Photographed, mapped and recorded

1.8 Administrative/surface ownership: Gerald Miller, Trail Creek (Section 24) Dave Johnson, Bozeman (Section 25)	1.9 Mineral ownership:
	1.10 Project name: Department of State Lands Abandoned Mines Reclamation Program

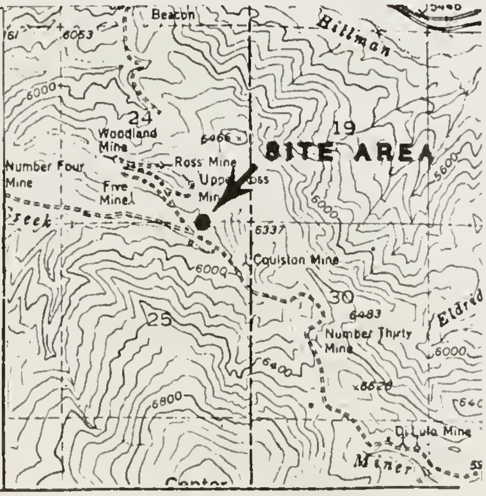
1.11 General narrative description of site:

The site consists of a relatively small coal slack dump located on the north side of Timberline Creek. The exact location of the mine entry was not located. The mine was one of several mines in the area which supplied coal to the Northern Pacific Railroad in the 1880s and 1890s.

1.12 Map reference:
USGS Bozeman Pass, Mont. 15 min quad.

1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:
Go east of Bozeman, Montana on I-90 for 12 miles. Turn off on Jackson Creek road and go south up Timberline Creek for 3-1/2 miles. The mine is along the left side of road.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA778

2.1 Geographic setting:

2.2 Elevation: 1800 m 5900 ft.

General: The site is on the eastern edge of the Rocky Mountains.
Local: The site is at the mouth of a small north/south trending ravine. The ravine is on the north side of Timberline Creek. The creek flows through a 1/4 mile wide ravine that is 500 ft to over 1000 ft below the tops of the mountains that border it.

2.3 View/aspect:
View is limited to the area within the ravine. This is about 1/2 mile at the most.

2.4 Major drainage:
Timberline Creek

2.5 Minor drainage(s):
unnamed drainage at site

2.6 Water sources:

Names	Distance	Ele. Change	Type & seasonality
a. Timberline Creek	200 ft	50 ft	year around
b. unnamed drainage	flows through the site		

2.7 Regional vegetation:
Transition zone between lodgepole pine - Douglas fir and intermountain valley grassland (Payne 1973).

2.8 Local vegetation:
fir, hawthorne, aspen, willow, sage, wild rose and wheatgrass

2.9 Soils:
brown loam

2.10 Surface visibility/season of survey:
poor/June

2.11 Other environmental factors pertaining to site location:
The site is within the Timberline Creek Coal mining district of the Livingston coal field. There are several abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA778

3.1 Condition of site:
Since none of the structures remain, the site's condition is considered as destroyed.

3.2 Site significance (NRHP):
The mine at this site was used primarily as a haulway for Timberline Mines No. 1 and 2. It probably produced little coal, therefore contributing little to the historic development of the area. The site is not recommended as eligible for listing on the NRHP.

☐ Attachments:

3.3 Impacts:
The Department of State Lands plans to cover the coal slack pile with top soil and revegatate it.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Gene Munson	3.6 Site recorded by: Gene Munson	3.7 Revisions by:
Date: June 1987	Date: June 1987	Date:

3.8 Permit No.: NA

3.9 Publications concerning site:

Munson, Gene 1987 A Cultural Resource Inventory of Selected Coal Mines in the Gallatin County Portion of the Livingston Coal Field, Montana. For the Montana Department of State Lands. GCM Services, Inc., Butte.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E. 1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D.C.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
21	overview	NE

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24GA778

5.1 Site dimensions, how determined:
The site measures 60 m north/south x 120 m east/west. This is the area in which the coal slack pile and probable adit entry are located.

1200 m^2

5.2 Features:
Feature 1 is a coal slack and rock dump. It measures about 30 ft north/south x 400 ft east/west. It is located on the slopeland adjacent to Timberline Creek.
Feature 2 is row of four posts in the bottom of the ravine located on the north side of the site. They may be the remains of footings for the track that came out of the mine.
Feature 3 is a small depression located 30 ft north of Feature 2. This may be the location of the entry for the mine.

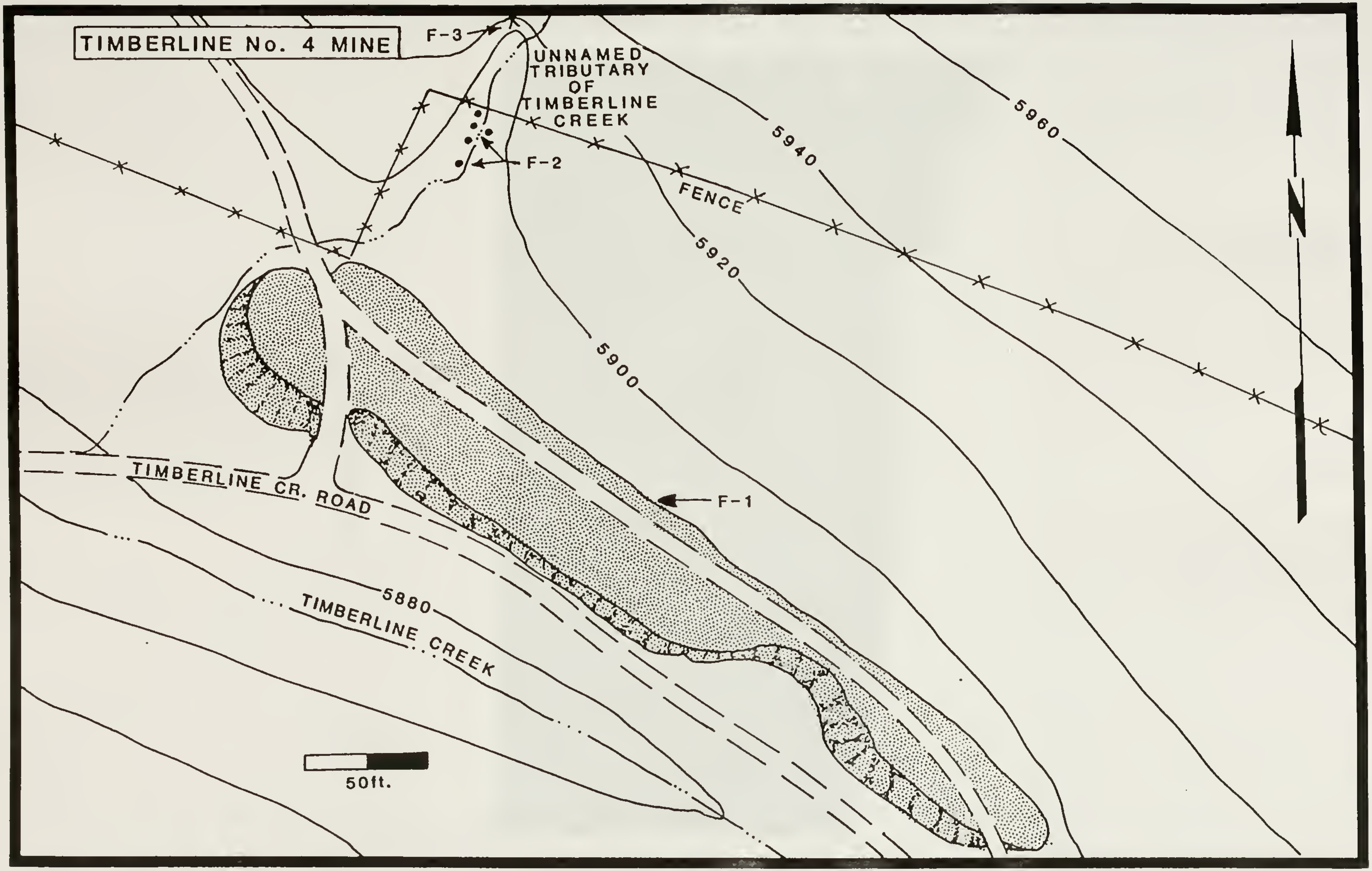
5.3 Artifacts (observed, collected):
None

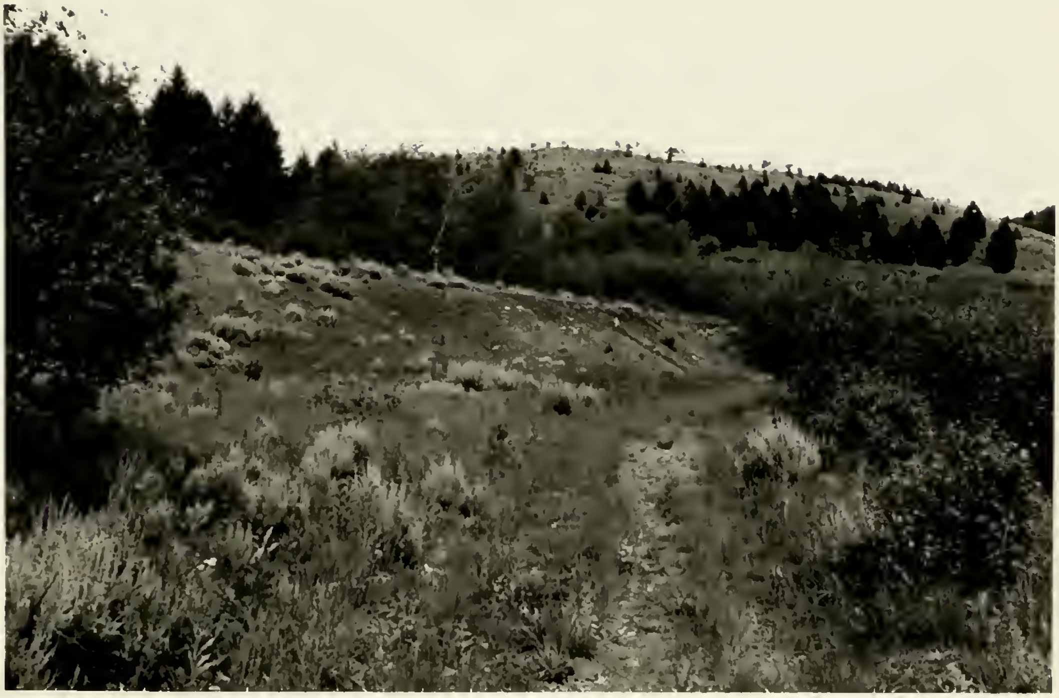
5.4 Historical information and evaluation:
Timberline No. 4 is one of six mines opened up along Timberline Creek by C. W. Thompson, Manager of the Northern Pacific Coal Company (a subsidiary of Great Northern Railroad), during the early 1880s. In 1883 a narrow-gage railroad was run up Timberline Creek from the Northern Pacific mainline at West End (which is located near Bozeman Pass). The Timberline Mines were leased to C. W. Hoffman in 1888. He operated the mines until they were closed in 1895. By this time all of the readily available coal had been removed and in order to continue mining, many expensive improvements were required. During this period, G. B. Hoffman was manager; James Anderson, superintendent; Thomas Atherton, pit boss; and John Rufly, fire boss. Collectively, the mines employed around 100 to 140 men and produced upward of 200 tons of coal per day. The coal was used exclusively by the Northern Pacific Railroad for locomotive fuel on the run between Glendive, Montana and Sprague, Washington (Roberts 1966; Montana Inspector Reports 1891-1895). Little information is available on the exterior workings at the mine and it is not known whether each mine had its own washing plant or what other surface facilities may have existed.

About 1894 the underground workings of the Timberline No. 4 Mine were extended 850 ft northeast in order to connect to those of Timberline Mines Nos. 1 and 2. Timberline No. 4 Mine then became the haulageway for these mines (Roberts 1966).

5.5 References
(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.
None


TIMBERLINE No. 4 MINE
F-3
UNNAMED TRIBUTARY OF TIMBERLINE CREEK
F-2
5960
5940
FENCE
5920
5900
F-1
N
TIMBERLINE CR. ROAD
5880
TIMBERLINE CREEK
50ft.



Overview Of The Coal Slack Dump At Timberline Mine No.4 (view NE)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number:
24GA779

1.2 Site name/field designation:
Timberline No. 5 Mine

1.3 County:
Gallatin

1.4 Township/range:

T 2S R 7E S 1/2 SE 1/4 SW 1/4 of Section 24

1.5 UTM:

Zone 12 514100 Easting 5054025 Northing

1.6 Site type:

historic coal mine

1.7 Recording status & comments:

recorded, mapped and photographed

1.8 Administrative/surface ownership:

Gerald Miller
Trail Creek

1.9 Mineral ownership:

1.10 Project name:
Department of State Lands Abandoned Mines Reclamation Program

1.11 General narrative description of site:

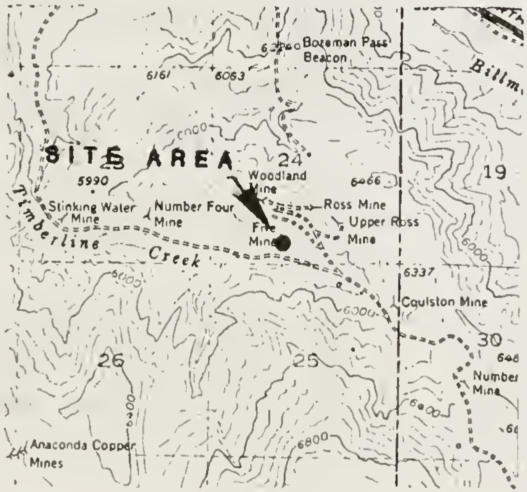
The site consists of a closed mine adit, a fair size coal slack dump and a leveled off place where a building probably was located. There are no remaining structures. The mine was one of six mines opened by the Northern Pacific Railroad in the 1880s and 1890s to furnish fuel to the railroad.

1.12 Map reference:
Bozeman Pass Quad. 1955 USGS 1:62500

1.13 City/town: ☒ vicinity of
Bozeman, Montana - Timberline Creek

1.14 Access to site:

Go east of Bozeman, Montana on I-90 for 12 miles. Turn off on Jackson Creek road and go south up Timberline Creek for 2-1/2 miles. The mine is along the left side of road.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA799

2.1 Geographic setting:

2.2 Elevation: 1775 m 5825 ft.

General: The site is in the eastern edge of the Rocky Mountains.
Local: The site is near the bottom of a narrow ravine on the south facing side. The mountain ridges that border the ravine are 600 ft to 1000 ft above the bottom of the ravine.

2.3 View/aspect:
About 1/4 mile south to the side of a mountain.

2.4 Major drainage:
Timberline Creek

2.5 Minor drainage(s):
small springs

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Timberline Creek	50 yards south		all year round
b.	small springs at the site			all year round

2.7 Regional vegetation:

lodgepole - pine - Douglas fir forest (Payne 1973)

2.8 Local vegetation:
Hawthorne, snowbush and chokecherry are on the mountain side on the north side of creek.
Alder, willow, dogwood and sedges along the creek. Pine, aspen, and fir trees are on the mountain side on the south side of the creek.

2.9 Soils:
Clay loam with siltstone outcrops. Rich top soil in low areas.

2.10 Surface visibility/season of survey:
Poor to fair due to heavy vegetation - May 1987.

2.11 Other environmental factors pertaining to site location:
The site is in the Timberline coal mining district of the Livingston coal field. There are numerous abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA779

3.1 Condition of site:
Since none of the structures remain, the site's condition is considered as destroyed.

3.2 Site significance (NRHP):
The mine at this site never was completed and probably produced very little, if any, coal. For this reason the site is not considered as contributing to the historic development of the area. The site is not recommended as eligible for listing on the NRHP.

3.3 Impacts:
The Department of State Lands plans to backfill the adit depression and cover the coal slack pile with top soil and revegatate it.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Tom Jerde Date: May 1987	3.6 Site recorded by: Tom Jerde and Gene Munson Date: May 1987	3.7 Revisions by: Date:

3.8 Permit No.: NA

3.9 Publications concerning site:

Munson, Gene 1987 A Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County portion of the Livingston Coal Field, Montana. For the Montana Department of State Lands. GCM Services, Inc. Butte.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E. 1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D.C.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
3	adit entry	N
4	Feature 3	N
5	overview	NW

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24GA779

5.1 Site dimensions, how determined:
The site measures 60 m north/south x 76 m east/west. This is the area in which the features are located.

4560 m^2

5.2 Features:
Feature 1 is a collapsed mine adit entrance. A small stream of water is flowing out of the adit.
Feature 2 is a leveled area that measures 25 ft north/south x 34 ft east/west. On the north side of this leveled area is a concrete footing which measures 3 ft north/south x 9 ft east/west. Sixteen coarse-threaded anchor bolts measuring 1-1/8 inch in diameter are set into the footing. The bolts are placed in sets of two across the footing. Moving eastward the bolts in each set are further apart, i.e., set one is 12 inches apart (center to center); set two is 24 inches apart; set three is 26 inches apart; and set four is 28 inches apart. The result is the bolts are in a tapered pattern across the footing. This probably is the remains of a footing in which a steam engine was anchored.

Feature 3 is a coal slack dump in which the top measures about 75 ft north/south x 230 ft east/west.

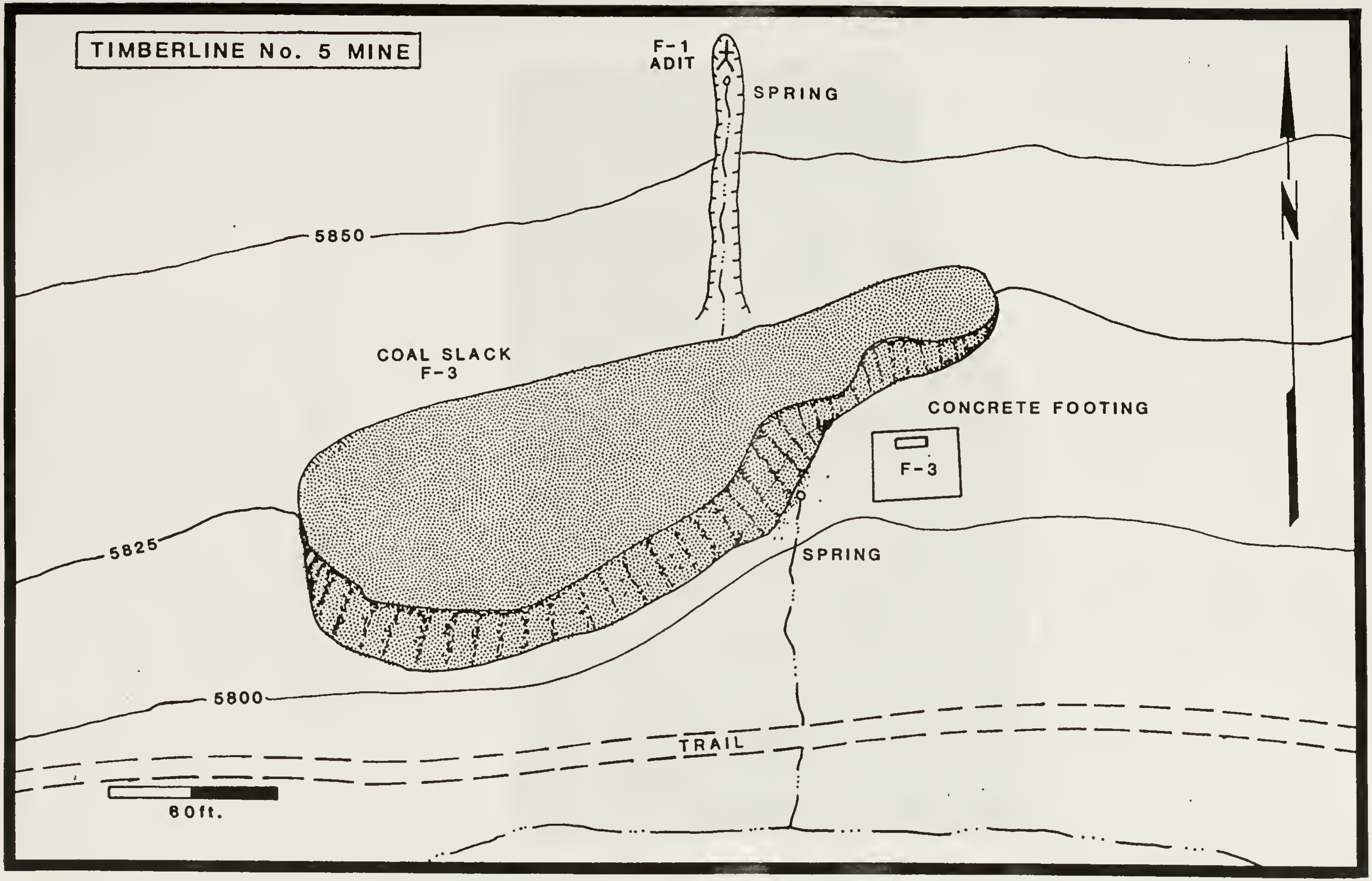
5.3 Artifacts (observed, collected):
A few boards, round nails, glass, and metal are scattered around the area in which Feature 2 is located.

5.4 Historical information and evaluation:
The Timberline No. 5 mine was opened around 1890 by the Northern Pacific Coal Company, a subsidary of Northern Pacific Railroad. The mine is one of six mines that was opened along Timberline Creek by the Northern Pacific Coal Company. The coal from the mine was used as fuel for the Northern Pacific Railroad locomotives. The tunnel for the mine extends 1800 ft north in order to intersect the Cokedale coal bed. Ultimately, it was intended as a haulageway for the Timberline No. 3 mine workings. However, the mines were closed before this was completed (Roberts 1966).

Frank Woodland and Ray Ross in the 1930s re-opened 1300 ft of the mine tunnel in a second unsuccessful attempt to develop the mine (Roberts 1966).

5.5 References
(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.
None


TIMBERLINE No. 5 MINE
F-1
ADIT
SPRING
N
5850
COAL SLACK
F-3
CONCRETE FOOTING
F-3
5825
SPRING
5800
TRAIL
60ft.

Overview Of Timberline No.5 Mine (view NW)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA780/24PA778	1.2 Site name/field designation: Timberline No. 6	1.3 County: Gallatin/ Park

1.4 Township/range:

2S	7E	SE 1/4	NE 1/4	NE 1/4 of Section 25
T 2S	R 8E	SW 1/4	NW 1/4	NW 1/4 of Section 30

1.5 UTM:

Zone 12 515950 - 516000 Easting 5053750-800 Northing

1.6 Site type: historic coal mine	1.7 Recording status & comments: Photgraphed, mapped and recorded

1.8 Administrative/surface ownership:

private

1.9 Mineral ownership:

1.10 Project name:
Department of State Lands Abandoned Mines Reclamation Program

1.11 General narrative description of site:

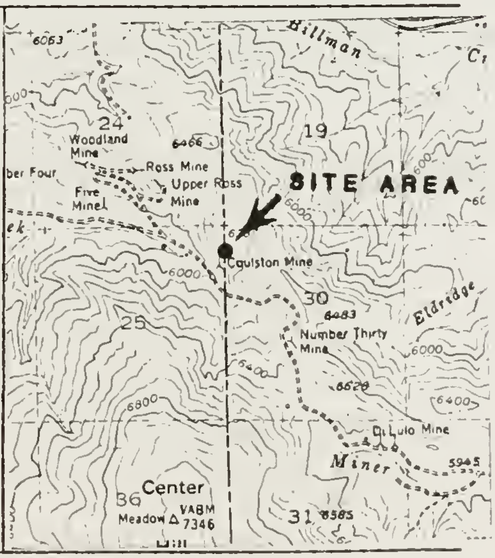
The site consists of a fairly large coal spoil dump, two collapsed adits and several subsidence holes. There are no standing structures. It is located on the north side of Timberline Creek in a narrow ravine. The mine was one of six mines developed by the Northern Pacific Railroad during the 1880s to supply coal to the railroad.

Note: This site has two numbers because it is within both Park and Gallatin Counties.

1.12 Map reference:
Bozeman Pass Quad. 1951 USGS 1:62500

1.13 City/town: ☒ vicinity of
Livingston, Montana

1.14 Access to site:
Drive west from Livingston on Highway 10 for about 14 miles to the Timberline Creek turn off. Take the dirt road south for about 3 miles to the eastern edge of Section 25. The mine is located on the side of the hill to the north and in a drainage.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA780/ 24PA778

2.1 Geographic setting:

2.2 Elevation: 1853 m 6080 ft.

General: The site is located within a mountain valley in the Bozeman Pass area. The semi-rugged terrain is mountainous with narrow valleys.
Local: The site is located near the mouth of a narrow northeast/southwest trending ravine. This ravine intersects with the ravine in which Timberline Creek flows through.

2.3 View/aspect:
View is south for about 1/4 mile into the Timberline Creek drainage.

2.4 Major drainage:

Timberline Creek

2.5 Minor drainage(s):

unnamed drainage at mine

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Timberline Creek	100 m (328 ft)	(24 m) 80 ft	perennial
b.	unnamed creek	at site		

2.7 Regional vegetation:
transition zone between lodgepole pine - Douglas fir and foothill grassland (Payne 1978).

2.8 Local vegetation:
pine, quaking aspen, willow, wildrose, sagebrush, sunflower, geranium, willow, thistle

2.9 Soils:
sandy loams to clay

2.10 Surface visibility/season of survey:
poor/summer due to heavy brush cover

2.11 Other environmental factors pertaining to site location:
The site is in the Timberline coal mining district of Livingston coal field. There are several abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number:24GA780/PA778

3.1 Condition of site:
Destroyed - no buildings remain. Adits have collapsed at their entrances.

3.2 Site significance (NRHP):
This site, as well as the other nearby coal mines, played an important role in the development of Montana during the late 1800s by providing coal to fuel the locomotives on the Northern Pacific Railroad. However, without the structures the site no longer has the capacity to adequately convey association with this historical pattern of events. It is not recommmended for listing on the NRHP.

3.3 Impacts:
The Department of State Lands plans to cover the coal slack dump and revegatate it.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Tom Jerde and Connie Moore Date: 6/3/87	3.6 Site recorded by: Tom Jerde, Connie Moore and Gene Munson Date: 6/3/87	3.7 Revisions by: Date:

3.8 Permit No.: NA

3.9 Publications concerning site:

Eldridge, G. H. 1886 Montana coal fields. In Report on the Mining Industries of the United States, 1880:U.S. Census, 10th, V. 15, U.S. Government Printing Office, Washington, D.C.

Montana Inspector of Mines 1891 Annual report of the Inspector of Mines of the State of Montana.

Munson, Gene 1987 A Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County portion of the Livingston coal field, Montana. For the Montana Department of State Lands. GCM Services, Inc., Butte.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E. 1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D.C.

3.10 Artifact repository: None collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
31	coal spoil dump (F-1)	E
32	adit portal (F-2)	NW
33	depression (F-4)	E
34, 35 and 36	adit portal to Timberline #6 Mine	E

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number:24GA780/PA778

5.1 Site dimensions, how determined:
The site measures 110 m north/south x 75 m east/west. This is the area in which the features are located.

22,000 m2

5.2 Features:
See attached.

5.3 Artifacts (observed, collected):
green, purple and clear bottle glass; railroad spikes; tin cans; cut bone; metal debris; tin sheeting; boards; beams; poles; portion of railroad track; wire nails

5.4 Historical information and evaluation:
The Timberline Mines were owned by the Northern Pacific Coal Company, a subsidiary of Northern Pacific Railroad, and worked under lease by C. W. Hoffman. There were six mines called the Timberline No. 1, No. 2, No. 3, No. 4, No. 5 and No. 6. They were located along the north side of the Timberline Creek drainage with Timberline No. 3 being the farthest mine to the west and Timberline No. 6, which was two miles away, the farthest mine to the east. The early reports on the mines generally combined the information on production, number of men working, etc., under the headline of "Timberline Mines". In 1882 a narrow-gauge track was run from West End up Timberline Creek to the mines. At West End, which is near the top of Bozeman Pass, the coal was loaded onto the Northern Pacific Railroad's main line trains. It was used exclusively by the railroad (Roberts 1966; Montana Inspector of Mines 1891-1895).

The mine was opened around 1881 and closed around 1892 (Montana Inspector of Mines 1891). From the entry an adit was driven about 150 ft to the Cokedale bed which dips 79° east. These levels were mined for about 500 ft. The room-and-pillar system of mining was employed. Production from the mine was small. It contained many partings and required washing (Roberts 1966). No information was available on whether the washing facility was located at the mine or if the coal was shipped to Timberline Mine No. 3 for washing.

The mine was reopened in 1933 by Tom Coulston. He worked the mine until 1936. Several of the pillars were mined and a fourth level was developed to a depth of 60 ft. The coal was sold for local domestic use (Roberts 1966).

5.5 References
(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.
None

Feature 1 is a fairly large coal slack dump located in the bottom of the ravine in which the site is located.

Feature 2 is a closed adit. It is located a few feet above the bottom of the ravine on the southwest face. It is about 250 ft north of Feature 1.

Feature 3 is a closed adit located a few feet above the bottom of the ravine on the east side. It is about 150 ft north of Feature 1. Roberts (1966: Plate 7) shows this as the entry for the Timberline No. 6 Mine. This adit extended about 150 ft into the hillside where it intersected the Cokedale coal bed. From here drifts running to the northwest and to the southwest followed the coal bed. Coal was taken out in four levels since the coal seam dips 79° east (Roberts 1966).

Feature 4 is a 10 ft in diameter x 6 ft deep depression in the bottom of the ravine. It is about 50 ft northwest of the entry at Feature 3. This is about midway between the entry at Feature 2 and the entry at Feature 3.

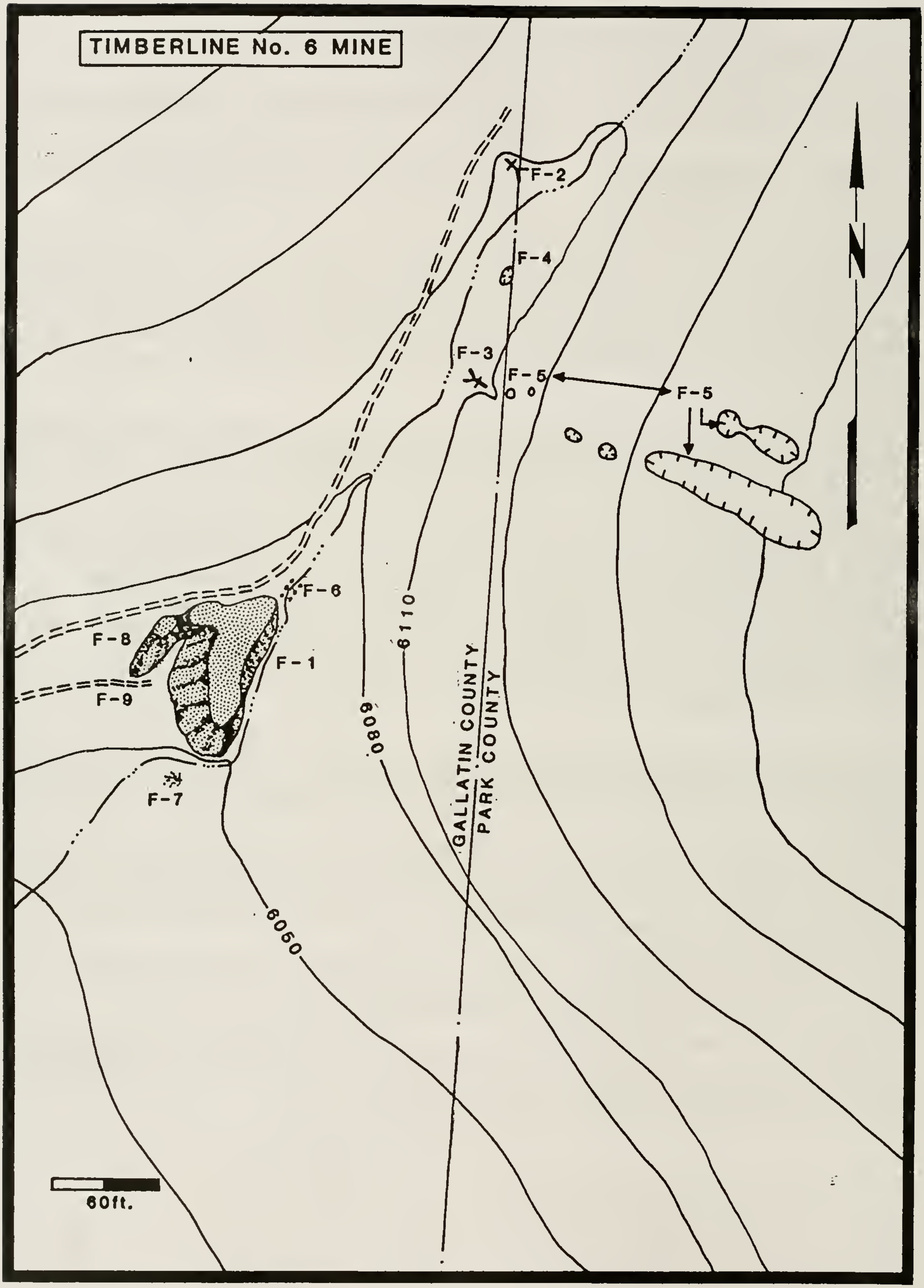
Feature 5 consists of eight subsidence holes up the mountainside from the mine entry at Feature 3. They are caused by the underground workings collapsing. The holes become bigger the further up the mountain they are located. The smallest holes, which are nearest the entry, are about 4 to 6 ft across and 3 ft deep. The largest hole which is furthest up the mountain is a trench about 12 ft deep x 100 ft long and 30 ft wide. This depression is about 100 ft from the entry. The rest of the depressions are from 10 ft to 14 ft across and 6 ft to 10 ft deep.

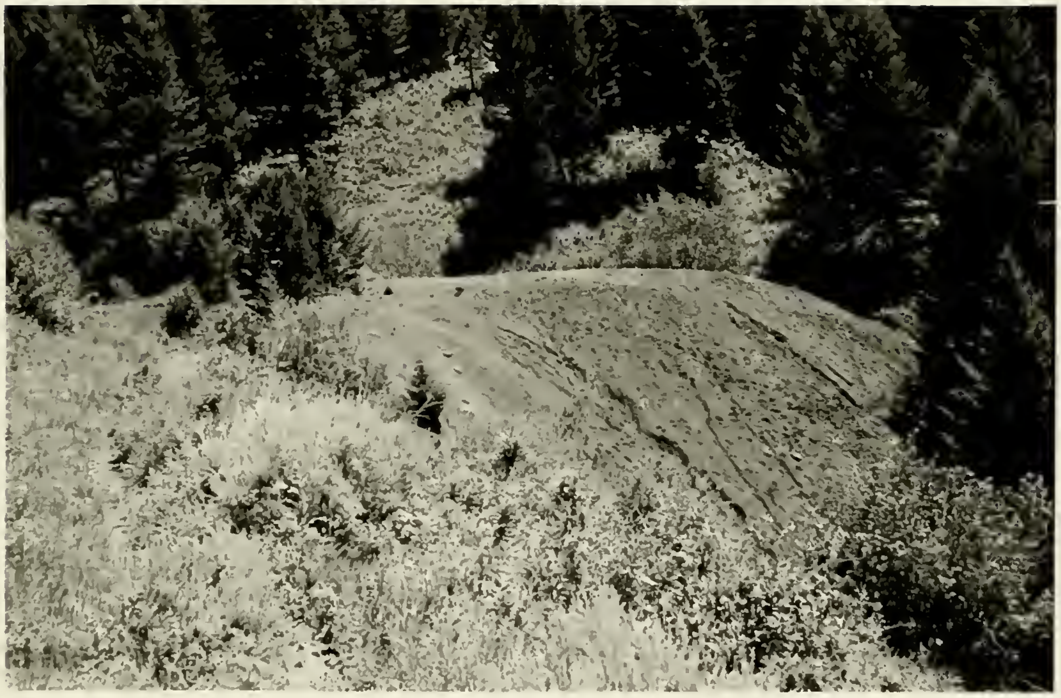
Feature 6 consists of a few upright posts located in the bottom of the ravine at the north end of the coal spoil dump (Feature 1). These posts probably are the remains of the footings for the track that ran from the mine to the coal spoil dump.

Feature 7 consists of a few boards, broken bottle glass and nails located immediately south of the coal spoil dump (Feature 1). This probably was a trash dump while the mine was in operation.

Feature 8 is an abandoned road that ran to the mine from the Timberline Creek road which is located about 400 ft to the south.

Feature 9 is a roadbed that is heavily grown over. This may have been the roadbed for the narrow gauge track that ran from the mine down Timberline Creek to the Northern Pacific main line at West End.


TIMBERLINE No. 6 MINE
F-2
F-4
F-3
F-5
F-5
F-6
F-8
F-1
F-9
F-7
6110
6080
6050
GALLATIN COUNTY
PARK COUNTY
N
60ft.



Coal Slack Dump For Timberline No.6 Mine (view East)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA781	1.2 Site name/field designation: Q and H Nos. 1 and 2	1.3 County: Gallatin

1.4 Township/range:

T 2S   R 7E   SW 1/4 SE 1/4   SW 1/4 SE 1/4   SE 1/4 SW 1/4 of Section 23

1.5 UTM:

Zone 12   513500 Easting   5054200 Northing

1.6 Site type: Historic mine	1.7 Recording status & comments: Photographed, recorded and mapped

1.8 Administrative/surface ownership:

Hilda M. Peterson (SE1/4 Section 23)
Barry Burkhart (SW1/4 Section 23)
Meadow Creek Ranch
Boulder, Colorado

1.9 Mineral ownership:

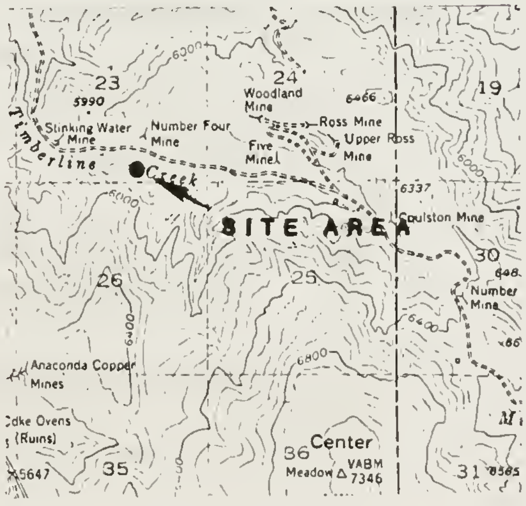
1.10 Project name:
Department of State Lands
Abandoned Mines Reclamation
Program

1.11 General narrative description of site:
The site consists of five collapsed mine portals, coal spoil dumps, and remains of the coal transport system. The site is adjacent to the Timberline No. 3 Mine coal spoil dumps. The mines were small commercial operations which were active in the 1880s.

1.12 Map reference:
USGS 15 Min. quad. Bozeman Pass, Mont. (1951)

1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:
Go east of Bozeman, Montana on I-90 for 12 miles. Turn off on Jackson Creek road and go south up Timberline Creek for two miles. Here the road passes through the middle of the Meadow Creek No. 3 Mine coal slack dump. The Q and H Mines are on the side of mountain to the south.



D86U2.8

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA781

2.1 Geographic setting:	2.2 Elevation: 1737- m 5700 - ft. 1786 5860

General: The site is on the eastern edge of the Rocky Mountains.
Local: The site is on the north face of the mountain ridge that borders the Timberline Creek drainage. Timberline Creek flows through a ravine which is from a couple hundred feet to a 1/4 mile wide. Mountain ridges 600 ft to 100 ft high borders the ravine.

2.3 View/aspect:
View is limited to a few hundred feet. This is up the Timberline Creek drainage to the southeast.

2.4 Major drainage: Timberline Creek	2.5 Minor drainage(s):

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Timberline Creek	100 ft	20ft	year around
b.				

2.7 Regional vegetation:

Lodepole pine - Douglas fir (Payne 1973)

2.8 Local vegetation:
fir, aspen, hawthorne, wheatgrass, wild rose, willow and snowbrush

2.9 Soils:
brown loam

2.10 Surface visibility/season of survey:
fair to good/June 1987

2.11 Other environmental factors pertaining to site location:
The site is in the Timberline coal district of the Livingston coal field. There are several abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA781

3.1 Condition of site: Since none of the structures remain the site's condition is considered as destroyed.

3.2 Site significance (NRHP):
This site, as well as the other nearby coal mines, played an important role in the development of Montana during the late 1800s by providing coal to fuel the locomotives on the Northern Pacific Railroad. However, without the structures the site no longer has the capacity to adequately convey association with this historical pattern of events. It is not recommmended for listing on the NRHP.

3.3 Impacts:
The Department of State Lands plans to backfill the adit depressions and cover the coal slack dumps with top soil and revegatate it.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Gene Munson	3.6 Site recorded by: Gene Munson	3.7 Revisions by:
Date: 6/87	Date: 6/87	Date:

3.8 Permit No.: N/A

3.9 Publications concerning site:

Munson, Gene 1987 A Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County portion of the Livingston coal field, Montana. For the Montana Department of State Lands. GCM Services, Inc., Butte.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Roberts, Albert E.
1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D.C.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
22	adit entry to Q and H. No. 1 Mine (F-1)	S
23	coal spoil dump for Q and H No. 2 Mine (F-13)	S
3	coal spoil dump for Q and H. No. 2 Mine (F-13)	W

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: ____________

5.1 Site dimensions, how determined:
The site measures 170 m north/south x 65 m east/west. This is the area in which the coal spoil dumps and adits are located.

10,000 m^2

5.2 Features:

See attached.

5.3 Artifacts (observed, collected):
Artifacts consists of a few rotting logs and two pieces of light gauge sheet metal located at Feature 4 and the remains of a coal cart and a short section of track located on Feature 13.

5.4 Historical information and evaluation:
The mines were opened in the 1880s by P. J. Quealy and C. W. Hoffman. The mines were closed down in 1888 when C. W. Hoffman leased the Timberline mines from the Northern Pacific Coal Company, a subsidiary of Northern Pacific Railroad Company. They are known as Q and H Mines Nos. 1 and 2. Both were horizontal drifts driven southward along the strike of the Cokedale bed. Roberts (1966) reports the Mine No. 2 entry was 300 ft above the Mine No. 1 entry although the entries currently appear to have about 120 ft elevation difference between the two. Mine No. 1's adit was about 900 ft long. Mine No. 2 was 800 ft long, and the raises from which the coal was mined were 250 ft long. Coal from Mine No. 2 was hauled down the mountain side in coal cars that ran on a double track system. As the loaded coal car was lowered down the mountain side it pulled up an empty car on the adjacent track. A similar system of getting coal down a steep slope was used in central Montana at the Brodie Mine (24FR633) which operated in the early 1920s (Munson 1987).

All of the coal was sold to the Northern Pacific Coal Company which was operating the Timberline No. 3 Mine across the creek from the Q and H Mines (Roberts 1966). It is likely that the coal from the Q and H Mines was washed at the Timberline No. 3 Mine washing plant.

5.5 References
(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.
None

5.2 Features: (continued)

Feature 1 is the collapsed mine entry to the Q and H Mine No. 1. It is marked by a 60 ft long x 10 ft wide x 8 ft deep cut into the base of the mountainside. A small stream of water is flowing out of the mine.

Feature 2 is a coal and waste rock dump located immediately to the north of Feature 1. It is about 20 ft above Timberline Creek. Fir trees and grass have begun to cover the feature.

Feature 3 is a collapsed mine entry located about 40 ft southwest of Feature 1. The small pile of coal slack (Feature 4) located in front of the adit suggests that it was only a prospect.

Feature 4 is a small pile of coal slack and waste rock located immediately north of Feature 3. There are a few rotting logs and two pieces of thin gauge sheet metal on the pile.

Feature 5 are two 10 ft long x 2 ft to 8 ft wide subsidence holes caused by the mine starting to collapse.

Feature 6 consists of a four ft wide corridor of coal that runs down the mountainside from Q and H No. 2 mine portal (Feature 11) to the base of the mountain at a coal slack dump (Feature 2). Adjacent to this corridor of coal are several small (2 ft across x 1 ft deep) depressions. There is also an occasional piece of rotting board or sawn log along the coal corridor. This feature is the remains of a double track system in which the loaded coal car moving down the mountainside hoisted the empty coal car up the mountainside (Roberts 1966). At the north end of the feature where the tipple would have been located there is a small pile of dirt and coal.

Feature 7 is a short section of road located at the lower end (i.e., north end) of Feature 8. At one time the road probably ran down to the Timberline narrow gage track (Feature 15) but has been destroyed by a recent logging road.

Feature 8 is a collapsed mine entry located near the south end of the site. It is marked by a 12 ft long x 3 ft wide x 3 ft cut into the mountainside. A small stream of water is flowing out of the entry.

Feature 9 is a small coal slack dump located in front of Feature 8.

Feature 10 is 10 ft north/south x 6 ft east/west x 3 ft deep depression located a few feet downslope from Feature 9. This depression may be the result of mine subsidence or possibly it is where an air shaft for Q and H No. 1 Mine was located.

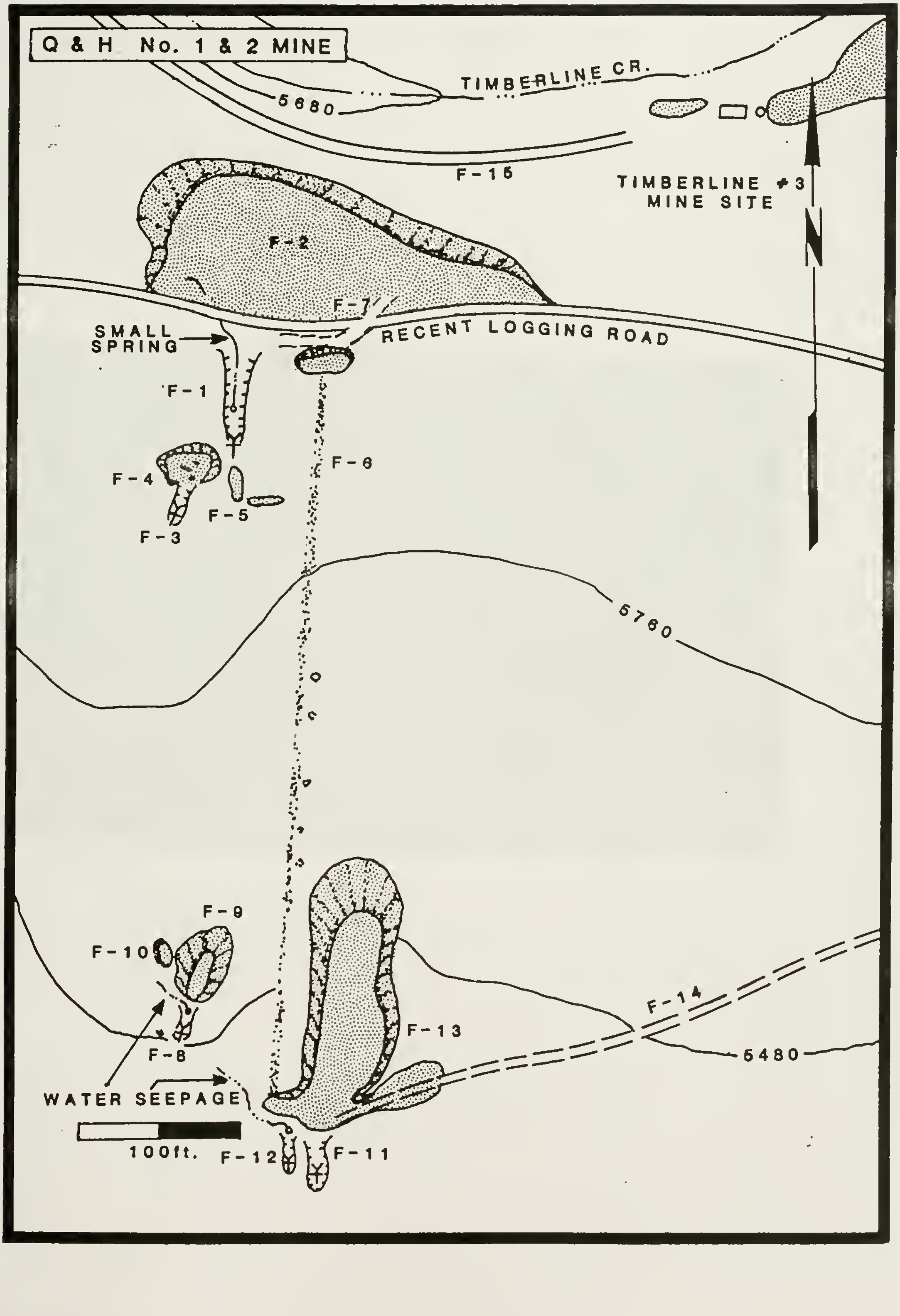
Feature 11 is a collapsed mine entry. It is marked by a 30 ft long x 8 ft wide x 10 ft deep cut into the mountainside. This is the entry for the Q and H No. 2 Mine.

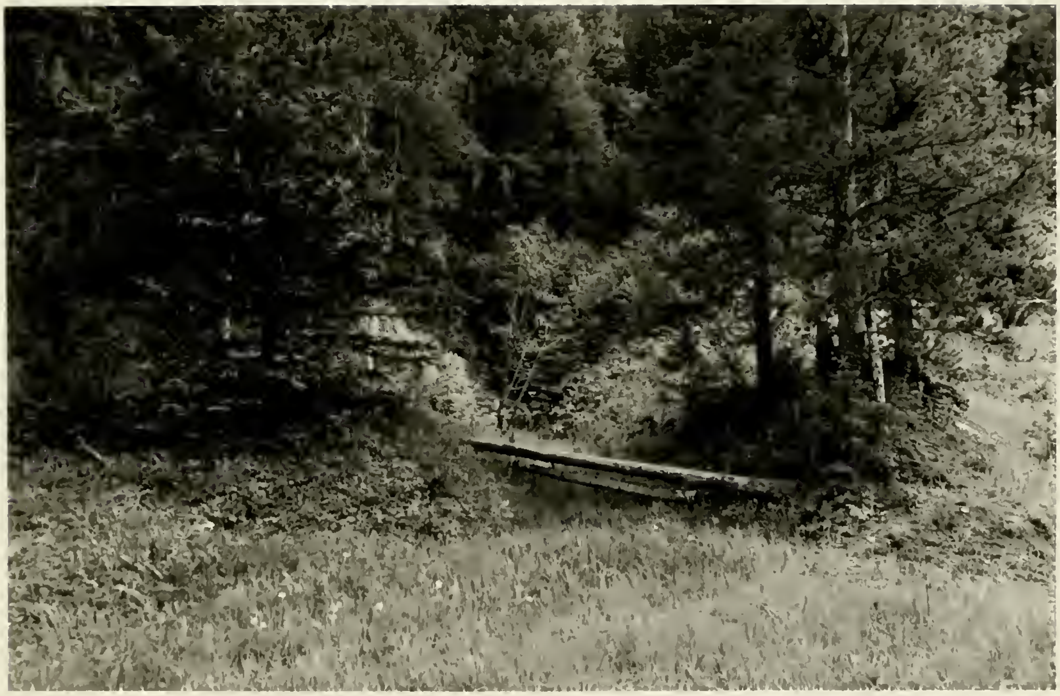
Feature 12 is a collapsed mine entry located adjacent to Feature 11. It is marked by a 10 ft long x 3 ft wide x 4 ft deep cut into the mountain side. A small stream of water is flowing out of the entry. The narrowness of the entry suggests that it was not used for access into the mine. It may have been made to help drain the mine.

Feature 13 is a fair sized coal slack dump located in front of Feature 11. A piece of coal car and a short section of track are lying on top of the feature.

Feature 14 is an 8 ft wide abandoned mine road that ran along the mountainside from Q and H Mine No. 2 down to Timberline Creek.

Feature 15 is the road bed for the narrow-gage track that ran from West End, which is near the top of Bozeman Pass, to the mines along Timberline Creek. The track and cross-ties were removed a number of years ago.


Q & H No. 1 & 2 MINE
TIMBERLINE CR.
5680
F-15
TIMBERLINE #3 MINE SITE
N
F-2
F-7
SMALL SPRING
RECENT LOGGING ROAD
F-1
F-6
F-4
F-5
F-3
5760
F-9
F-10
F-8
F-13
F-14
5480
WATER SEEPAGE
100ft.
F-12
F-11



Adit Entry To Q&H No.1&2 Mine (View South)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA782	1.2 Site name/field designation: Hyer Prospect	1.3 County: Gallatin

1.4 Township/range:

T 2S R 7E SE 1/4 NE 1/4 NE 1/4 of Section 25

1.5 UTM:

Zone 12 515900 Easting 5055800 Northing

1.6 Site type: historic coal mine	1.7 Recording status & comments: Photographed, mapped and recorded

1.8 Administrative/surface ownership:

Dave Johnson
Bozeman, Montana

1.9 Mineral ownership:

1.10 Project name:
Department of State Lands Abandoned Mines Reclamation Program

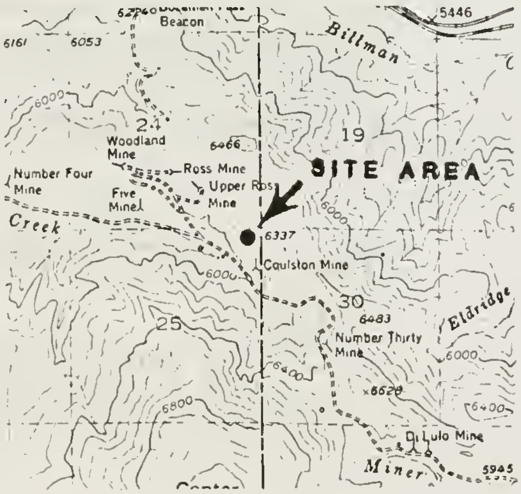
1.11 General narrative description of site:

The site consists of a collapsed adit and coal spoil dump. It is on a south facing mountain side adjacent to Timberline Creek. It is located a little over 1/8 mile northwest of Timberline Mine No. 6.

1.12 Map reference:
U.S.G.S. Bozeman Pass, Mont. 15 min quad (1951 edition)

1.13 City/town: ☒ vicinity of
Bozeman, Montana

1.14 Access to site:
Drive west from Livingston on Highway 10 for about 14 miles to the Timberline Creek turn off. Take the dirt road south for about 3 miles to the eastern edge of Section 25. The mine is located on the side of the hill.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA782

2.1 Geographic setting:	2.2 Elevation: 1853 m 6080 ft.

General: The site is located on the eastern edge of the Rocky Mountains.
Local: The site is on the south face of the mountain ridge that runs along the north side of Timberline Creek. It is about 100 ft above the base of the mountain.

2.3 View/aspect:
View is excellent down Timberline Creek (i.e., to the northwest). This is for about 1/2 mile.

2.4 Major drainage: Timberline Creek	2.5 Minor drainage(s):

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Timberline Creek	200 ft	100 ft	year around
b.				

2.7 Regional vegetation:
Transitional zone between lodgepole pine - Douglas fir forest and foothill grassland (Payne 1973).

2.8 Local vegetation:
Much of the mountain side on which the site is located lacks Douglas fir or lodgepole pine. However, there are a considerable number of very young trees coming up. Currently, the mountain side is covered with western wheat grass, hawthorne and sage.

2.9 Soils:
brown loam

2.10 Surface visibility/season of survey:
good/June

2.11 Other environmental factors pertaining to site location:
The site is located within the Timberline coal district of the Livingston coal field. There are several abandoned coal mines in the area.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number: 24GA782

3.1 Condition of site:
There probably never were any outside facilities located at the site since it was just a prospect. The site's condition is likely quite similar today as it was originally. Therefore, the site is in good condition.

3.2 Site significance (NRHP):
The site was a prospect for coal in the 1880s. Probably very little coal was mined from it. For this reason the site contributed little to the local history of the area. The site does not meet any of the Criteria. It is not recommended as eligible for listing on the NRHP.

3.3 Impacts:
The Department of State Lands plans to cover the coal spoil dump with soil and revegetate it.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work on the site is recommended.

3.5 Site located by: Connie Moore and Tom Jerde Date: 6/2/87	3.6 Site recorded by: Connie Moore, Tom Jerde and Gene Munson Date: 6/2/87	3.7 Revisions by: Date:

3.8 Permit No.: NA

3.9 Publications concerning site:

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

Munson, Gene 1987 A Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County portion of the Livingston coal field, Montana. For the Montana Department of State Lands. GCM Services, Inc., Butte.

Roberts, Albert E.
1966 Geology and Coal Resources of the Livingston Coal Field Gallatin and Park Counties, Montana. United States Geologic Survey Professional Papers 526-A. United States Printing Office, Washington, D.C.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
30	overview	N

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24GA782

5.1 Site dimensions, how determined:

The site measures 30 m north/south x 12 m east/west. This is the area in which the coal spoil dump and adit are located.

360 m^2

5.2 Features:

Features consist of a collapsed adit and a coal spoil dump. There is an abandoned road that runs to the mine from the Timberline Creek road. The coal spoil dump is about 80 ft north/south (this includes the coal spoil that has washed down the mountain side) x 30 ft east/west.

5.3 Artifacts (observed, collected):

None

5.4 Historical information and evaluation:

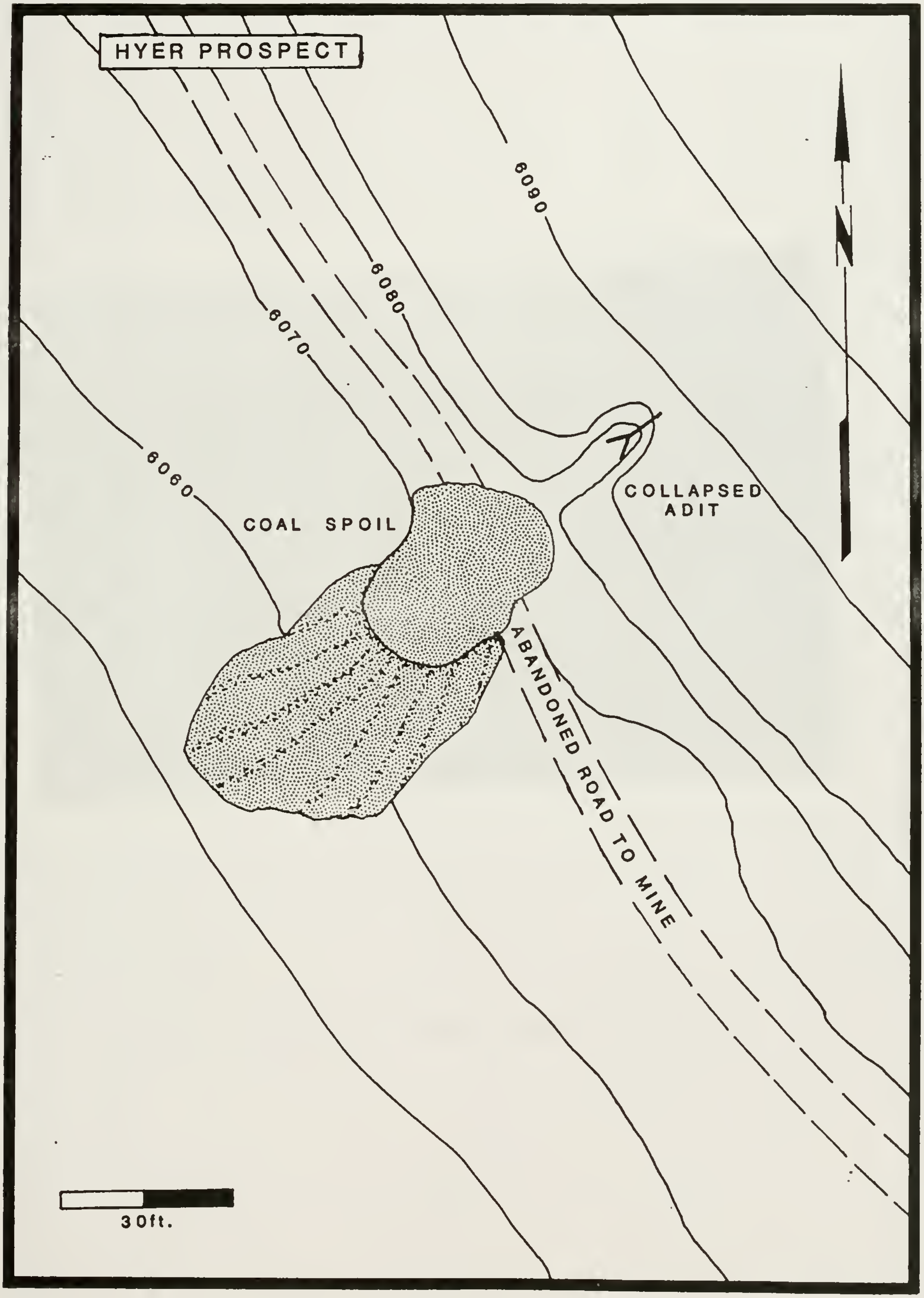
The site was an inclined shaft on the Cokedale bed. It was a prospect that was opened up in the 1880s (Roberts 1966).

5.5 References

(See Section 3.9)

5.6 Subsurface testing, results, methods, etc.

None


HYER PROSPECT
6090
6080
6070
6060
COAL SPOIL
COLLAPSED ADIT
ABANDONED ROAD TO MINE
N
30ft.

Coal Slack Dump At The Hyer Prospect (View North)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24GA783

1.2 Site name/field designation: Coke Oven Terrace

1.3 County: Gallatin

1.4 Township/range:

T 2S R 7E SE 1/4 NE 1/4 of Section 34

1.5 UTM:

Zone 12 512075 Easting 5051095 Northing

1.6 Site type: prehistoric camp

1.7 Recording status & comments: recorded, mapped and photographed

1.8 Administrative/surface ownership:

Meadow Creek Partnership
Jerry Burkhart
Boulder, CO

1.9 Mineral ownership:

1.10 Project name: Department of State Lands Abandoned Mines Reclamation Program

1.11 General narrative description of site:

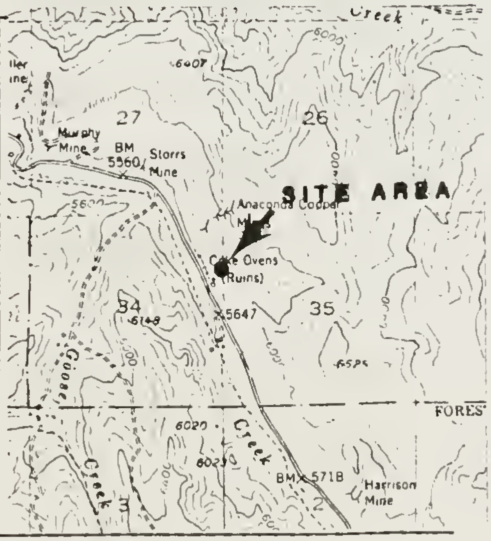
This site is located on both sides of an unnamed creek and 200 m west of Meadow Creek. The area is a large slightly sloping terrace with springs along the east side of the site and north of the unnamed creek.

The site consists of a surface scatter of flakes and tools that are found on the dirt road, along the unnamed drainage near the coke ovens. The site has been partly destroyed by mining activity. It is located within the boundaries of the abandoned Washoe Coal Mine (24GA 772).

1.12 Map reference: Bozeman Pass Quad. 1955 USGS 1:62500

1.13 City/town: ☒ vicinity of Bozeman, Montana

1.14 Access to site:
Go about nine miles east of Bozeman, Montana on I-90. Turn off at Trail Creek road and go about 3-1/2 miles up Trail Creek road. The site is on the left side of the road at the south end of the coke ovens.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site number: 24GA783

2.1 Geographic setting:

2.2 Elevation: 1707 m 5600 ft.

The site is located on a large slightly sloping terrace area adjacent to Meadow Creek. Low mountain ranges are on both sides of the creek. The surrounding area is heavily vegetated with hawthorne and timber. Sandstone rocks outcrop along the mountain sides.

2.3 View/aspect:
Good view down Meadow Creek to the northwest.

2.4 Major drainage:
Meadow Creek 200 m west

2.5 Minor drainage(s):
unnamed drainage

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Meadow Creek	west	40 ft	perennial
b.	unnamed drainage	at site	4 ft	perennial

2.7 Regional vegetation:
foothill grassland (Payne 1973)

2.8 Local vegetation:
quaking aspen, sagebrush, hawthorne, willow, serviceberry, chokecherry, _Rosa sp._, sunflower, yarrow, geranium, thistle, lupine, phlox and grasses

2.9 Soils:
30 cm of good rich dark brown top soil overlying light brown clay loam and rocks

2.10 Surface visibility/season of survey:

poor/spring - heavy grass cover

2.11 Other environmental factors pertaining to site location:
The site is located within the boundaries of the Washoe Coal Mine complex. The coke ovens and barn buildings for this mine are situated at the prehistoric site.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site number:

3.1 Condition of site:
Site has been partly destroyed by road construction and mining activity. It is not known how much of the site remains intact and this cannot be determined without further site testing.

3.2 Site significance (NRHP):
The site contains subsurface materials and appears to have the potential to yield further information on the prehistory of the area. Further testing is necessary to better determine the temporal/culturl affiliation of the occupants, the type of prehistoric activities conducted, the site boundaries, and the extent and degree of disturbance caused by mining-related activities. It is recommended as potentially eligible to the NRHP under criterion D.

3.3 Impacts:
The site has already been impacted by early day coal mine activities.

3.4 Recommendations:
Based on test results and artifacts found on the surface the planned mine reclamation work by the Department of State Lands should not disturb the site.

3.5 Site located by: Tom Jerde	3.6 Site recorded by: Tom Jerde and Connie Moore	3.7 Revisions by:
Date: 5/15/87	Date: 6/2/87	Date:

3.8 Permit No.: NA

3.9 Publications concerning site:

Munson, Gene 1987 Cultural Resource Inventory and Evaluation of Selected Coal Mines in the Gallatin County Portion of the Livingston Coal Field, Montana. For the Montana Department of State Lands. GCM Services, Inc., Butte.

Payne, Gene F. 1973 Vegetative Rangeland Types in Montana. Montana State University, Bulletin 671, Bozeman.

3.10 Artifact repository: Department of Anthropology University of Montana Missoula, Montana	3.11 Field notes/maps/photo repository: GCM Services, Inc. 1003 S. Montana St. Butte, MT 59702

3.12 Photos & accession No:

No.	Description	View
25	overview	S

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 4 Description of Prehistoric Sites

Site number: 24GA783

4.1 Site dimensions, shape, how dimensions determined:
The site measures 120 m north/south x 120 m east/west. These dimensions were determined by the location of surface lithics and the location of lithics within test pits. The site may be larger than the dimensions given. Early day mining activity has covered part of the site with fill.

14,400 m²

4.2 Features: None on surface or encountered during testing.

4.3 Artifacts (Observed, collected):

Observed	Collected on Surface
1 basalt flake	1 agate wood projectile point midsection
1 quartzite flake	1 chert end scraper
5 chert flakes	1 quartzite biface fragment
1 obsidian flake	1 chert end scraper fragment
1 agate wood flake	
bone fragments	
historic debris	

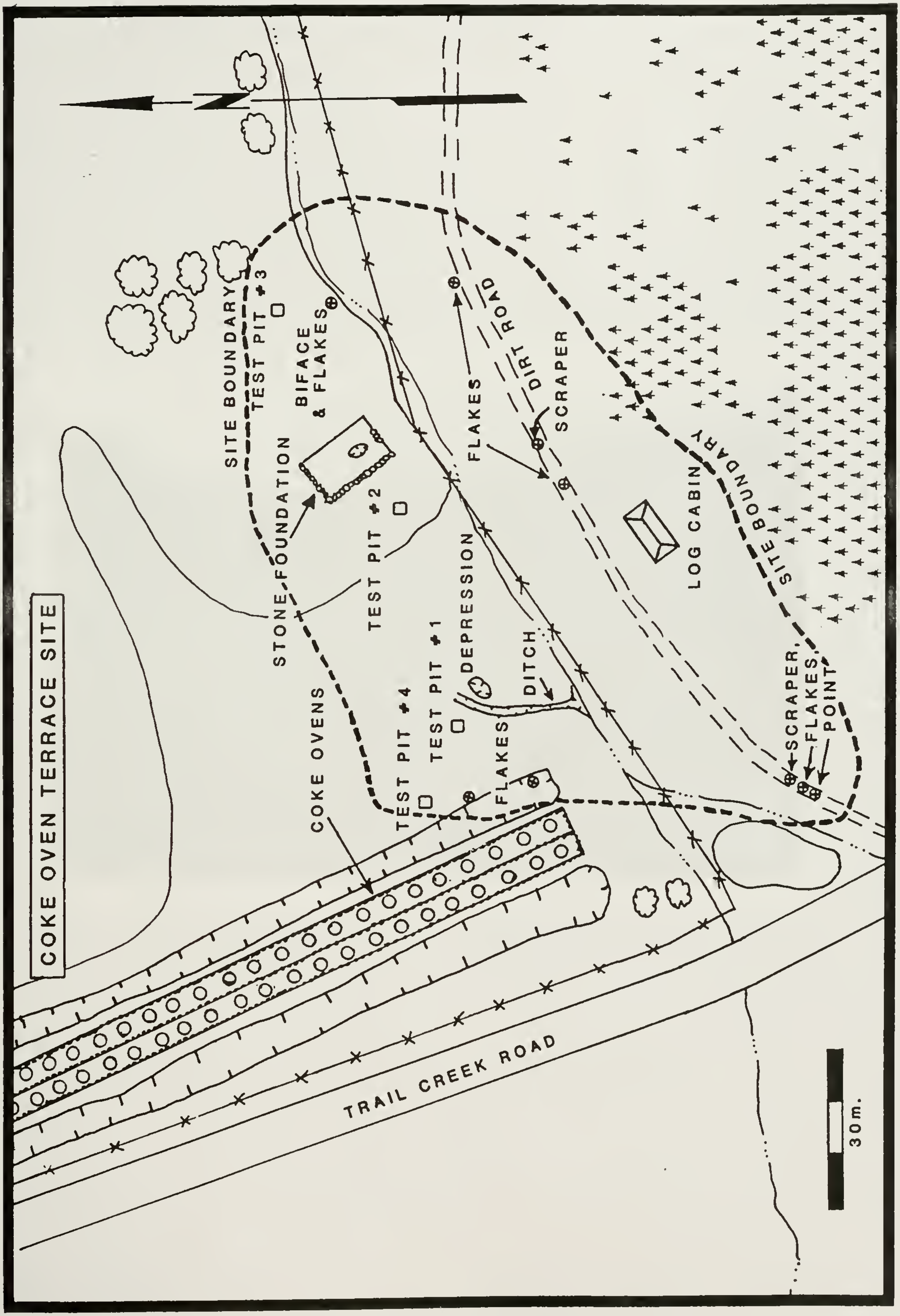
See 4.6 for list of subsurface artifacts.

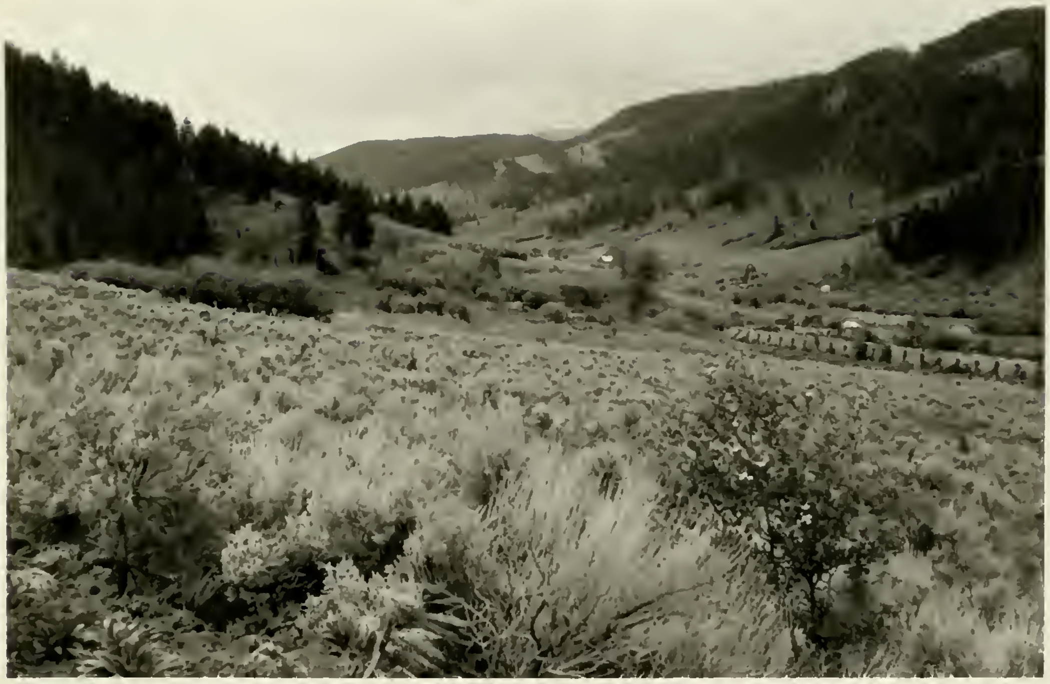
4.4 Cultural/temporal affiliation. Justify. Unknown - no diagnostic tools found.

4.5 Functional inference. Justify.
The site may have been a camp area but this cannot be determined for sure without further testing of the site.

4.6 Subsurface testing results, methods, stratigraphy, etc.:
*TP#1 - top 3 cm are sod and heavy grass cover. Soil was a dark clay loam.
0-10: 1 tan/gold chert biface, 1 modern .22 caliber cartridge
10-20: 1 obsidian flake, a few sandstone rocks
20-30: no artifacts, a few sandstone rocks
30-40: 1 obsidian, 1 quartzite, 1 chert flake. Soil is still a dark clay-loam.
40-50: a few sandstone rocks, no artifacts.
50-60: 1 obsidian flake - at 55 cm b.s. the clay-loam becomes lighter in color, more moisture
TP#2 - top 3 cm are sod. thin layer of clinker and coal under sod. Soil is a dark clay-loam.
0-10: coal and clinker, two large sandstone rocks, other smaller sandstone rocks
10-20: many small sandstone rocks, coal, clinker, mortar fragments
20-30: many rocks
TP#3 - top 3 cm are sod. Soil is a dark clay loam throughout
0-10: cut nails, metal debris, clinker, coal, window glass, small sandstone rocks
10-20: window glass, wire and cut nails, clinker, bolts, nuts, sandstone rocks
20-30: wire and cut nails, window glass, clinker, bolts, nuts, sandstone rocks
30-40: wire and cut nails, bolts, nuts, 1 grey quartzite flake, sandstone rocks
40-50: wire and cut nails, bolts, nuts, clinker, sandstone rocks
50-60: soil is still a dark clay-loam, metal debris continues below 60 cm b.s.
TP#4 - top 30 m are sod, fire brick and red brick located just below sod
0-10: fire brick and red brick fragments has a © on side, thin metal fragments, small sandstone rocks
10-20: small sandstone rocks
20-30: several small sandstone rocks
30-40: no artifacts, dark clay loam
at 45 cm the soil becomes lighter in color

*All test pits are 1 m x 1 m.


COKE OVEN TERRACE SITE
N
SITE BOUNDARY
TEST PIT #3
BIFACE & FLAKES
STONE FOUNDATION
TEST PIT #2
FLAKES
DIRT ROAD
SCRAPER
FLAKES
LOG CABIN
SITE BOUNDARY
DEPRESSION
TEST PIT #1
DITCH
COKE OVENS
TEST PIT #4
FLAKES
SCRAPER
FLAKES
POINT
TRAIL CREEK ROAD
30m.



Overview Of Coke Oven Terrace Site (view South)